



## Environmental Assessment and Assessment of Effect



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### Relocate West Side Maintenance Facility And Visitor Contact Station

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PINNACLES NATIONAL MON.  
PAICINES, CA 95043

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## **PROJECT PURPOSE AND NEED**

The purpose of this project is to relocate/rebuild the deteriorated visitor contact, ranger support and maintenance facilities from their current location in an active flood channel to a more suitable location.

Current facilities on the west side of Pinnacles National Monument (at Chaparral) are located within a 20-year flood plain and require modification of the drainage channel to keep them from being undermined. In addition, they are 40 to 55 years old and are obsolete, inadequate for intended purposes and rapidly deteriorating. The Chaparral area has flooded 3 times in the last 20 years. The visitor contact station is a small converted garage and employee housing consists of one aging trailer.

Congestion in the area during peak season and lack of sufficient room for interpretive displays lead to unsatisfactory visitor experiences. Office space, maintenance workspace, indoor storage, and employee housing are inadequate for efficient monument operations.

To protect park resources, improve the visitor experience, and maintain professional land stewardship, removal of existing structures and relocating their functions to new facilities in a less environmentally-sensitive area is necessary. Having updated facilities and improved communications would improve the ability of monument staff to perform the duties described above.

This Environmental Assessment analyzes the impacts to the environment that would be anticipated as a result of implementing the alternative methods to meet the needs.

### **Relationship to Other Planning**

The Master Plan for Pinnacles National Monument (NPS 1976) provides broad direction for management of the monument and identifies actions to improve the quality of visitors' experience, improve management and protection of resources, and other items. This Master Plan called for "removal of visitor and support facilities from obtrusive locations within significant resources areas, and their relocation in less sensitive locations." The proposed action analyzed in this Environmental Assessment would implement this action from the Master Plan and restore three acres of currently-disturbed riparian area.

A Development Concept Plan (DCP) and Environmental Assessment for the West District was approved in 1991. This DCP called for relocation of facilities at Chaparral to a site near the west boundary. A general management plan effort is ongoing for Pinnacles. It will include a long-range goal to remove development from the heart of the Pinnacles and put it nearer the boundary. This project would be one step in achieving that goal.

## **LEGISLATIVE MANDATES AND SPECIAL COMMITMENTS**

This project has been developed consistent with NPS legal mandates, NPS management policies, the Pinnacles National Monument Master Plan, and other approved monument planning documents. A review of these mandates and commitments is provided in this section.

Legislative mandates and special commitments include those measures that apply to the entire National Park Service, plus monument-specific requirements. The intent of all of the mandates and commitments is to establish sustainable conservation and to avoid impairment of NPS resources and values.

### **The Purpose Of The Monument**

Pinnacles National Monument was established in 1908 to preserve the distinct volcanic pinnacle rocks and caves for scientific interest and scenery. The monument also fulfills an important role in preserving examples of coastal broadleaf chaparral and valley oak ecosystems.

## **Federal Mandates and National Park Service Policies**

The National Park Service and its mandates are authorized under the NPS Organic Act (16 USC 1, 2-4) and the General Authorities Act (16 USC 1a-8). These acts direct the agency to conserve the scenery, the natural and historic objects, and the wildlife, and to provide for the enjoyment of those resources in such a manner as to leave them unimpaired for future generations.

NPS *Management Policies* and *Natural Resources Management Guidelines* (NPS 77) provide guidance for protecting biological resources and require the examination of impacts during planning. Additionally, one of the primary goals in the overall mission statement of the Department of the Interior is to protect plant and animal diversity (biodiversity) on public lands.

The Endangered Species Act directs federal agencies, in consultation with the Secretary of the Interior, to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat (16 USC 1535 Section 7(a)(2)). Consultation with the U.S. Fish and Wildlife Service (USFWS) is required if the action may affect such a species to ensure that it does not jeopardize the species' continued existence. The National Park Service will consult with the USFWS during the development of this Environmental Assessment.

Executive Order 11988 and draft Director's Order 77-2 require the NPS to avoid adverse impacts associated with the occupancy and modification of floodplains and to avoid development in a floodplain wherever there is a practicable alternative.

The NPS is mandated to preserve and protect its cultural resources through the NPS Organic Act of 1916, and through specific legislation such as the Antiquities Act, Archeological Resources Protection Act, the National Historic Preservation Act of 1966 and the Advisory Council on Historic Preservation's implementing regulations regarding Protection of Historic Properties (36 CFR 800).

NPS policies concerning cultural resource management are stated in NPS *Management Policies* and the *Cultural Resources Management Guideline* (Director's Order 28). Other relevant policy directives and legislation are detailed in DO 28.

## **Issues**

**Issues:** Issues and concerns affecting this proposal were identified from monument staff and past NPS planning efforts that involved input from the public and other agencies. The major issues identified include:

1. The conformance of this proposal with existing planning;
2. Potential impacts to natural resources from proposed construction and visitor use, especially special status species and cultural resources;
3. Effects on visitor experience; and
4. Effects on monument operations.

## **Impact Topics**

Specific impact topics were developed for discussion focus, and to allow comparison of the environmental consequences of each alternative. These impact topics were identified based on federal laws, regulations, and Executive Orders; NPS *Management Policies 2001*; NPS knowledge of limited or easily impacted resources; other agency concerns and public input. A brief rationale for the selection of



each impact topic is given below, as well as the rationale for dismissing other topics from further consideration.

**Air Quality:** The 1963 Clean Air Act (CAA), as amended (42 U.S.C. 7401 et seq.), requires federal land managers to protect park air quality, while the 2001 NPS *Management Policies* address the need to analyze air quality during park planning. The CAA states that federal land managers have an affirmative responsibility to protect air quality-related values (including visibility, plants, animals, soils, water quality, cultural and historic resources and objects, and visitor health) from adverse air pollution impacts. Section 118 of the CAA requires the monument to meet all federal, state, and local air pollution standards. One or more of the alternatives could affect air quality.

**Soils, Vegetation and Wildlife:** The National Environmental Policy Act (NEPA) calls for an examination of the impacts on all components of affected ecosystems. NPS policy is to protect the natural abundance and diversity of all of the monument's naturally occurring communities. Since the action alternatives would affect natural resources, soils, vegetation and wildlife are addressed as individual impact topics in this document.

**Wetlands and Floodplains:** Executive Orders 11990, "Protection of Wetlands" and 11988 "Floodplain Management" require an examination of impacts to wetlands and construction in identified floodplains. Monument staff indicate that there is a small ephemeral wetland in the project area and there would be activity in the floodplain at Chaparral if an action alternative is selected. One purpose of the proposed project is to remove existing intrusions from a known floodplain. Analysis of the area does not indicate any floodplains or flood hazard zones in the proposed relocation area.

**Special Status Species:** (Federal and state listed species): The 1973 Endangered Species Act, as amended, requires an examination of impacts to all federally listed threatened or endangered species or designated critical habitats. NPS policy requires examination of the impacts to state listed threatened or endangered species and federal candidate species.

In a letter dated November 26, 2001, the US Fish and Wildlife Service (USFWS) lists special status species that may be within the project area. Some of these species may be affected by actions resulting from the preferred alternative. In addition, several state species of concern may be found in the area (See Appendix). Therefore, special status species is an impact topic addressed in this document.

**Archeological Resources.** Archeological surveys have been completed of the project area and no sites were discovered. However, the potential for impacts to unknown resources remains. As required by various Acts and NPS Management Policies, archeological resources are considered and analyzed in this environmental assessment.

**Historic Sites and Structures.** An historic homesteading site is known in the project vicinity that could receive indirect effects from one or more alternatives, so this topic is considered.

**Visitor Experience (including Soundscapes):** Providing for visitor enjoyment is one of the fundamental purposes of the NPS according to the Organic Act. The monument's Master Plan and the West Side Development Concept Plan establish provisions for recreational uses by providing quality facilities for a more meaningful visitor experience. Alternatives in this environmental assessment have the potential to variously affect recreational values of the monument.

Natural sights and sounds are important components of a favorable park experience. One or more alternatives would affect the existing soundscape in monument areas, so this topic is included for discussion.

**Scenic Quality** Views from the Wilderness and other viewsheds would be affected by one or more alternatives.

**Monument Operations:** Implementing any of the alternatives could affect the efficiency of monument operations and employee worklife concerns, so this topic is included for analysis

## ***Impact Topics Dismissed from Further Analysis***

**Night Sky:** Pinnacles West District is open for day-use, but visitors are allowed to walk in at night. In addition, there could be evening or night visitor programs held at the new facility in alternative B and C. Thus, the clarity of night skies is important to visitor experience as well as being ecologically important. If alternative B or C is selected, NPS staff would recommend the level and type of lighting needed for the project that would not detract from night sky viewing opportunities in and out of the monument. The NPS would cooperate with park neighbors and local agencies to find additional ways to minimize the intrusion of artificial light into the night scene from outside the monument. There would be no impacts to night skies caused by any alternative.

**Water Quality:** The 1972 Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, is a national policy to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to enhance the quality of water resources and to prevent, control, and abate water pollution. The 2001 NPS *Management Policies* provides direction for the preservation, use, and quality of water originating, flowing through, or adjacent to park boundaries. The NPS seeks to restore, maintain, and enhance the quality of all surface and ground waters within the parks consistent with the 1972 Federal Water Pollution Control Act, as amended, and other applicable federal, state, and local laws and regulations.

During all NPS construction activities care would be taken to protect hydrological values. Fueling of all machinery would be conducted only in the equipment staging areas away from waterways. Any spills of hazardous materials, fuel, etc., would be cleaned up immediately, and would not be washed into natural drainages. Materials used for cleaning fuel spills and other hazardous materials would be available on the staging sites. To minimize this possibility of petrochemicals from construction equipment seeping into the soil, equipment would be checked frequently to identify and repair any leaks.

Throughout all aspects of the project, water quality would be maintained at or above minimum levels required by the State of California Water Quality Control Board.

**Cultural Landscapes:** Cultural landscapes are broadly defined by the National Park Service as, "a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions" (Director's Order 28).

A Level 1 Cultural Landscape Inventory has been completed in the project area. No features in the area were found that would distinguish it as a cultural landscape eligible for listing on the National Register, so this topic was dismissed from analysis.

**Ethnographic Resources:** Ethnographic resources are defined by the National Park Service as any "site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it" (Director's Order 28: 181). No ethnographic resources that would be eligible for listing on the National Register have been identified in the proposed project area.

**Wilderness, Wild and Scenic Rivers:** Wild and Scenic Rivers are designated by Congress and none of the rivers in the project area have been so designated. The monument includes designated wilderness. None of the alternatives discussed in this document would intrude on these designated areas so this topic was dismissed from further consideration. Wilderness viewsheds are addressed under Scenic Quality.

**Environmental Justice:** Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate



3-foot microwave dish antenna mounted on a 20'-high pole on the hill near the water tanks. Wiring for the antenna would be buried along the waterline. A temporary road would be used for construction.

The proposed visitor contact station would include an information desk, interpretive and informational displays, space for classes and special programs, and work space for monument personnel. The entrance station would be built into the entrance road and would be used to greet visitors, collect entrance fees and hand out the park brochure and important safety information. The existing road would be widened around the entrance station for traffic control and safety. A parking area would be constructed adjacent to the visitor contact station with a capacity for 30 cars and 2 RVs or buses. Parking spaces near the building would be handicap accessible. All new facilities would be fully accessible. Paved access roads would be constructed around the entrance station, to the maintenance facility, and ingress and egress to the parking lot.

As shown on the proposed site design (attached), space for employee housing is included. This would consist of one duplex and one dormitory unit built according to current NPS standards. These residences would be connected to utilities installed for the maintenance facility (NOTE: construction of housing may be deferred until a later time when funding becomes available).

Design features such as stone facing on exterior walls and aesthetically compatible colors would make the new visitor/ranger facility visually pleasing and not detract from the surrounding scenery. The entrance station would also be designed so that it does not stand out when viewed from a distance. The water tanks and communications antenna would be painted so they do not detract from the scenery.

The existing picnic area, restroom and trailhead parking would remain in the Chaparral area. A small structure (approximately 14' x 24') to house electrical equipment would be constructed on the hillside near the existing parking lot (out of the floodplain) at Chaparral. The photo-voltaic system now on the maintenance building would be moved and mounted on the roof of the proposed shed and adjacent shade structure. The existing residence trailer, visitor contact station, maintenance building and yard would remain until the new facilities are completed and then they would be removed and the sites restored to more natural conditions (drawing attached). Approximately 3 acres of riparian zone would be restored. Some noise and visual intrusions to nearby wilderness would be eliminated by removing the generator and structures.

The location and site design of the Preferred Alternative were arrived at through a Design Charrette and Value Analysis Study conducted with NPS staff and contractors. Value Analysis is a problem solving and decision-making process to achieve all required functions at the least cost over the life of the project/facility. It is an interdisciplinary team effort that considers natural, cultural and visitor-related values as well as costs. Several sites were considered during this study and the proposed location was chosen as the best because of its scenic views, availability of water and fewer sensitive resources.

Maintaining scenic viewsheds from the High Peaks trail (in wilderness) was a concern in the scoping for this project. To address this, the visitor contact station would be located so that it is partially hidden by a low hill while the parking area would be located behind the hill. The maintenance facility and emergency services building would be located behind another rise on the west side of the road.

**Construction:** Implementing this alternative would involve vegetation removal, earthwork (cutting, filling and grading), excavation for building foundations, trenching for utility lines (power, water and sewer), erecting the structures and laying asphalt driving surfaces, concrete walkways and retaining walls. Utilities to be constructed include the partially buried water tanks, two leachfields, connecting pipelines and electrical wiring. The water system would require excavation of an area about 50 by 100 ft for the tanks and trenching for a total of about 850 linear feet of buried pipe and electrical lines.

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The area of new ground disturbance is estimated as follows:

Visitor Contact Station and parking	125,000 sq. ft.
Maintenance buildings, housing, and utilities	158,000 sq. ft.
Utility shed and solar panel structure at Chaparral	<u>1,200 sq. ft.</u>
Total	284,200 sq. ft. = <b>6.52 acres</b>

Actions described in the preferred alternative would fully meet the needs identified in the first section of this document.

**Sustainability:** The NPS has adopted the concept of sustainable design as a guiding principle of facility planning and development (*NPS Management Policies*, 9.1.1.7). The objectives of sustainability are to design facilities to minimize adverse effects on natural and cultural values, to reflect their environmental setting and to maintain and encourage biodiversity; to construct and retrofit facilities using energy-efficient materials and building techniques; to operate and maintain facilities to promote their sustainability; and to illustrate and promote conservation principles and practices through the sustainable design and ecologically sensitive use. Essentially, sustainability is the concept of living within the environment with the least impact on the environment.

The preferred alternative subscribes to the practice of sustainable energy design and attains a Certified-Gold Leadership in Energy and Environmental Design (LEED) Rating. The following are sustainable design features:

- Trombe/Thermal Mass Walls (Visitor Contact Station)
- Orientation of buildings to maximize solar exposure
- Natural Day-Lighting - Clerestory windows (Visitor Contact Station and Maintenance buildings)
- Photovoltaic electricity with clean fuels generator backup (All new structures and facility at Chaparral)
- Site selection and building orientation to maximize solar exposure

## MITIGATING MEASURES

The following measures are included as part of alternatives B and C, and are intended to reduce or eliminate potential adverse impacts from implementing the alternatives.

- The boundaries of the wetland would be marked on the ground by monument staff and would be avoided by construction activities.
- Water or other reasonably available control measures would be applied as necessary to mitigate dust impacts.
- Idling of construction vehicles would be limited. In addition, signs would be posted in the construction zone asking visitors to turn off their engines during any traffic delays to reduce noise and air quality impacts on site.
- Construction zones would be fenced with construction tape, snow fencing, or some similar material before any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the

construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.

- To minimize soil erosion and possible flushing of sediment into the wetland at the project site, standard erosion control measures including silt fencing and sandbags would be incorporated into the action alternatives. Any trenching operations would use a rock saw, backhoe, trencher, and/or hand excavated with excavated material side-cast for storage. Back filling and compaction would begin immediately after the utility lines are placed into the trench and the trench surface would be returned to pre-construction contours. All trenching restoration operations would follow guidelines approved by park staff. No longer needed areas of disturbed vegetation and/or compacted soils (e.g. staging areas) would be rehabilitated.
- The following mitigation measures would be implemented to prevent and minimize the spread of exotic vegetation and noxious weeds
  - All construction equipment that would leave the road would be pressure washed before entering the park.
  - The location of staging and construction parking area(s) would be limited to existing roads or the disturbed area (construction limits).
  - Any fill materials would be obtained from a park-approved source and approved by a monument biologist.
  - All exposed disturbed areas would be revegetated using site-adapted native seed and plants after construction.
  - Post-project exotic plant monitoring should also be conducted in the project area, as time and funding allows.
- Construction workers and supervisors would be informed about special status species. Contract provisions would require the cessation of construction activities if a species were discovered in the project area, until park staff re-evaluates the project. This would allow modification of the contract for any protection measures determined necessary to protect the discovery.
- The NPS has conducted archeological surveys to identify resources in the project area and no archeological sites were discovered. However, should unknown buried deposits be located, work would be halted and a qualified archeologist would be consulted immediately and an appropriate mitigation strategy developed, if necessary, in accordance with the stipulations of laws and policies. Future actions, depending on the type of discovery, may include data recovery excavations guided by a project-specific research design. Additionally, the NPS would begin consultations under the Native American Graves Protection and Repatriation Act in the event that buried human remains is discovered during archeological excavations or project development.
- To minimize visual impacts, aboveground utilities such as water system, communications antenna and fences would be painted with color(s) approved by park staff that blend into the scenery.
- To minimize the potential for impacts to park visitors, variations on construction timing would be considered. Options may include conducting the majority of the work in the off-season (winter) and/or inserting a no construction on weekends clause.

### ***Alternative C - Reduced Scope***

West District operations and visitor service facilities would be relocated from the environmentally-sensitive Chaparral site to a larger, less sensitive site near the western monument boundary two miles to the west (same previously-disturbed site as Alternative B). This alternative would provide for



construction of a new visitor contact/ranger station, maintenance building with fire and EMS caches, park housing, parking and related utilities (power, sewer and water). The major difference in this alternative is that the maintenance facility and public restrooms would be reduced in size from that in Alternative B. Water would be provided by the well existing on the site.

Key features of Alternative C include the following:

- A new visitor contact station to serve visitors to the West District of the monument.
- Public restrooms, interpretation, outdoor viewing opportunities.
- New park operations facilities (entrance station, office space, smaller maintenance building, communications tower, and emergency equipment storage)
- Employee housing

Proposed development is shown on the attached site plan (attached). Construction would include new buildings, a parking area, water storage tanks and infrastructure. On the west side of the road would be a maintenance building with caches for fire suppression and emergency medical equipment of 2,312 square feet. An entrance/fee station would be constructed in the entrance road. Park housing consisting of one duplex and one dormitory housing unit would also be provided on this site. Water tanks would be partially buried in the hill west of the proposed operations building. The communications tower would be comprised of a 2 foot by 3 foot microwave dish antenna mounted on a 20'-high pole on the hill near the water tanks. Wiring for the antenna would be buried along the water line. A temporary road would be used during construction.

East of the road would be a 1920-square foot visitor contact and ranger station with public restrooms (total of 4 stalls). The fourth building would be an 14'x24' equipment shed with solar array constructed in the Chaparral area out of the floodplain.

The visitor contact station would include interpretive exhibits, an information desk and work space for monument personnel. The existing road would be widened around the entrance station for traffic control and safety. A parking area would be constructed adjacent to the visitor contact station with a capacity for 30 cars and 2 RVs or buses. Parking spaces nearest the building would be handicap accessible. All new facilities will be fully accessible. Paved access roads would be constructed around the entrance station, to the maintenance facility, and ingress and egress to the parking lot. Electrical power would be provided by a diesel generator located in the maintenance building.

Space for park housing is included in this alternative. This would consist of one duplex and one dormitory unit built to NPS standards for employee housing. These residences would be connected to utilities installed for the maintenance facility (NOTE: construction of housing may be deferred until a later time as funding becomes available).

The projected budget for this alternative would not allow for all the design features such as stone facing on retaining walls and aesthetically compatible colors that would make the new visitor/ranger facility more visually pleasing. The water tanks and communications antenna would be painted so they do not detract from the scenery.

The existing picnic area, restroom and trailhead parking would remain in the Chaparral area. A small structure would be constructed on the hillside near the existing parking lot at Chaparral to house electrical equipment. The existing photo-voltaic system would be moved to the roof of the proposed shed and adjacent shade structure. The existing residence trailer, visitor contact station, maintenance building and yard would remain until the new facilities are completed and then they would be removed and the sites restored to natural conditions (drawing attached). Approximately 3 acres of riparian zone would be restored. Some noise and visual intrusions to nearby wilderness would be eliminated.

**Construction:** Implementing this alternative would involve vegetation removal, earthwork (cutting, filling and grading), excavation for building foundations, trenching for utility lines (power, water and sewer), erecting the structures and laying asphalt driving surfaces, concrete walkways and retaining walls. Utilities to be constructed include the partially buried water tanks, two leach fields, connecting pipelines and electrical wires. The water system would require excavation of an area about 50 by 100 ft for the tanks and trenching for about 850 linear feet of pipeline.

The area of new ground disturbance is estimated as follows:

Visitor Contact Station and parking	125,000 sq. ft.
Maintenance buildings, housing, and utilities	155,000 sq. ft.
Utility shed and solar panel structure at Chaparral	<u>1,200 sq. ft.</u>
Total	281,200 sq. ft. = 6.45 acres

The same Mitigating Measures included at the end of the description for Alternative B would apply to this alternative

**Sustainability.** This alternative subscribes somewhat to the practice of sustainable energy design. It accomplishes this by maximizing the use of natural light (daylighting) in all new structures and relying on thermal masses, where feasible, for natural heating and cooling. No photo-voltaic system would be installed in this alternative. This would result in a lower LEED rating than Alternative B.

## **ALTERNATIVES CONSIDERED AND DISMISSED**

Another alternative considered was to build the facilities at the Doublegate area, 0.75 mile north of the proposed location. The Doublegate site was considered in the 1991 DCP but was not the preferred alternative. This site was dismissed from further analysis in this project because:

1. The site has less-desirable views with no opportunities to view the Pinnacles.
2. An access route to private land crosses through the site.

## **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The environmentally preferred alternative is determined by applying the criteria suggested in NEPA, which is guided by the Council on Environmental Quality (CEQ). The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Generally this means the alternative that causes the least damage to the biological and physical environment. This includes alternatives that:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings
3. attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice
5. achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.



Alternative A would involve no construction disturbance and, therefore, no new impacts to natural or cultural resources (partially meets Goals 1, 4 and 5). However, existing impacts to the riparian area, wilderness viewshed and natural hydrologic systems at Chaparral would continue (Goals 1, 4 and 5 not met). Existing visitor contact and information facilities would continue to adversely affect visitor enjoyment and safety (Goals 2 and 3 not met).

Alternative B would involve permanent impacts to 6.5 acres of land that is not in a pristine state. Three acres of riparian area would be restored, meeting goals 1, 4 and 5. Visitor use and enjoyment would be enhanced, which would meet goals 2 and 3. Sustainability designs would be incorporated, meeting goal 6. All NEPA §101 Goals would be met to some degree by this alternative.

Alternative C would involve permanent impacts and benefits similar to Alternative B except visitor enjoyment would not be as greatly enhanced and some sustainability designs would not be incorporated. Goals 1, 3, 4, and 5 would be met while goals 2 and 6 would only be partially met.

After careful review of potential resource and visitor impacts, and developing proposed mitigation for impacts to natural and cultural resources, the environmentally preferred alternative is Alternative B. Alternative B surpasses the other alternatives in best realizing the full range of national environmental policy goals as stated in § 101 of the National Environmental Policy Act. Although other alternatives may achieve some level of individual protection for natural resources, Alternative B would 1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; 2) assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings; 3) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences; 4) preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice; 5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and 6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

## SUMMARIES

### Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C
Visitor contact station and work space	Existing	1350 sq. ft.	1350 sq. ft.
Public restrooms	Existing 4 stalls at Chaparral	Existing facility at Chaparral plus six new stalls (3 men's, 3 women's)	Existing facility at Chaparral plus four new stalls (2 men's, 2 women's)
Maintenance building	Existing	3500 sq. ft., two service bays	2300 sq. ft., one service bay, reduced storage
Employee housing	Existing trailer at Chaparral	One duplex and one single unit housing for permanent or seasonal employees	One duplex and one single unit housing for permanent or seasonal employees
Parking area	Existing parking area	Existing parking at Chaparral plus new lot for 30 vehicles	Existing parking at Chaparral plus new lot for 30 vehicles
Entrance station	No	Yes	Yes

Electrical power	Existing photo-voltaic (PV) system with generator backup	Photo-voltaic (PV) system with propane backup generator at new facilities. PV system at Chaparral would remain.	Diesel generator at new facilities. PV system at Chaparral would remain.
Sustainability	Existing PV at Chaparral	PV retained at Chaparral. New facilities would have PV, daylighting, thermal masses.	PV retained at Chaparral. New facilities would have daylighting and thermal masses. No PV system
Area of new surface disturbance	0 acres	6.5 acres	6.4 acres
Riparian area restored	0 acres	3 acres	3 acres

### Summary Comparison of Environmental Impacts

Component	Alternative A	Alternative B	Alternative C
Air Quality	No effect	Short-term, minor adverse impacts to local air quality during construction and long-term, negligible adverse impacts from increased use at the new facilities.	Short-term, minor adverse impacts to local air quality during construction and long-term, minor adverse impacts from operation and use of the new facilities.
Soils	Soils would not be impacted or impaired by this alternative	Impacts to soils would be adverse, minor and long-term (6.5 acres of soil impacted).	Same as Alternative B except that 6.4 acres of soil impacted.
Vegetation	Vegetation would not be impacted or impaired by the no action alternative.	Overall impacts to vegetative resources of the monument from this alternative would be minor, long-term and adverse.	Overall impacts to vegetative resources of the monument from this alternative would be minor, long-term and adverse.
Wetlands and Floodplains	No new impacts to floodplains or wetlands. There would be a continuation of long-term, minor adverse impacts from facilities remaining in the floodplain.	This alternative would cause no impacts to wetlands and a minor, long-term beneficial impact on floodplains. It would not result in impairment of either of these resources.	Same as Alternative B.
Wildlife	There would be no new impacts on wildlife	This alternative would result in minor, long-term adverse impacts to wildlife at the new site and negligible, long-term beneficial impacts at Chaparral.	Same as Alternative B.
Special Status Species	No Action would have no effect on listed or sensitive species.	No effect on any federally listed species currently in the monument. It may affect, but not likely to adversely affect, California condors if they are released in the area during construction. It would cause negligible, long-term adverse	Same determinations as for Alternative B.



<b>Component</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
		impacts to species of concern identified in the project area and a negligible, long-term beneficial impact to species using the restored riparian area.	
Cultural Resources	No effect on cultural resources	There would be a minor, long-term adverse impact to historic resources in the project area. There would be no effect on archeological resources.	Same as Alternative B.
Visitor Use	The No Action alternative would cause the continuation of minor, long-term adverse impacts to visitors.	Short-term, minor adverse impacts on visitors during construction and a moderate, long-term benefit to visitor experience once project is completed. Soundscapes would receive minor to moderate long-term adverse impacts.	Short-term, minor adverse impacts on visitors during construction and a minor, long-term benefit to visitor experience once project is completed. Soundscapes would receive moderate long-term adverse impacts.
Scenic Quality	This alternative would have no effect on scenic quality.	Scenic quality would receive negligible, long-term benefits and moderate long-term adverse impacts.	Scenic quality would receive negligible, long-term benefits and moderate long-term adverse impacts.
Monument Operations	The No Action alternative would cause a minor, long-term adverse impact to monument operations that could increase to moderate as the structures age.	This alternative would result in minor, short-term adverse impacts and moderate, long-term benefits for monument operations.	This alternative would result in minor short-term adverse impacts to monument operations, and both minor beneficial and adverse impacts in the long-term.

# **AFFECTED ENVIRONMENT**

## ***Natural Resources***

### **Air Quality**

Current air quality in the monument is good. Currently, monument air quality may be affected by exhaust from vehicles and generators. Short-term impacts can occur from construction or maintenance activities and include fugitive dust and increased motorized equipment emissions. Threats to visibility and air quality from outside the monument include windblown dust, natural aerosols and long-range transport of city pollution (i.e. volatile organic compounds, nitrogen compounds, carbon monoxide and sulfur dioxide emissions). The NPS recognizes that poor air quality does affect such issues as scenery, visitor experience and, if severe enough, may affect fish and wildlife.

### **Soils**

Soils in the area have been mapped by the Natural Resource Conservation Service. Generally, they are of low fertility, are permeable and well-drained and are subject to erosion hazard on steep slopes. The soils in the proposed project site are deep (the water well drilled in the area in the Fall of 2001 encountered bedrock 40 feet down).

### **Vegetation**

The area of the proposed action is in a meadow that was enlarged by chaining the surrounding chaparral community. This vegetation consists mainly of common plants such as blue oak, chamise, buckbrush, holly leaf cherry and manzanita. California buckwheat (*Eriogonum fasciculatum*) is also present and found primarily in burned or disturbed areas. Most of the grasses on the proposed construction site are introduced species.

### **Wetlands and Floodplains**

A small wetland exists in the middle of the meadow to the west of the road at the proposed site with some facultative wetland plants. The entire Chaparral area is in a 20-year floodplain.

### **Wildlife**

The monument supports a wide variety of mammals, reptiles, birds, amphibians and insects. Species of interest that may occur in the project area are the coast blacktailed deer, bobcat, raccoon, gray fox, coyote, Pacific coastal rattlesnake, gopher snake, prairie falcon, turkey vulture, raven, golden eagle and mountain lion.

### **Special Status Species**

The following table shows special status species that are known or suspected in the project area according to information from the U.S. Fish and Wildlife Service, the California Department of Fish and Game and Pinnacles NM staff (the Appendix includes a complete listing of sensitive species). There is no designated critical habitat at the project site.

Common Name	Scientific Name	Status
California condor	<i>Gymnogyps californicus</i>	E (see note below)
American badger	<i>Taxidea taxus</i>	CSC
Prairie falcon	<i>Falco mexicanus</i>	CSC
White-tailed kite	<i>Elanus sp.</i>	CSC
Golden eagle	<i>Aquila chrysaetos</i>	CSC
Cooper's hawk	<i>Accipiter cooperi</i>	CSC
Two-striped garter snake	<i>Thamnophis hammondi</i>	CSC
Coach Whip snake	<i>Masticophis flagellum</i>	CSC
Lawrence's goldfinch	<i>Carduelis lawrencei</i>	CSC
Salinas Valley (=hooked) popcorn flower	<i>Plagiobothrys uncinatus</i>	CSC
Spring lessingia	<i>Lessingia tenuis</i>	CSC
Indian Valley bush mallow	<i>Malacothamnus aboriginum</i>	CSC

**Key:**

E = Federally listed Endangered

T = Federally listed Threatened

SC = Federal Species of Concern

CSC =California Species of Special Concern

**Condors:** A reintroduction of California condors in the east side of the monument is being planned for 2003. The release is being coordinated by the Ventana Wilderness Society (VWS) with the Fish and Wildlife Service and Pinnacles National Monument. The planned release site is on the opposite side of the monument from the project site.

## ***Archeological and Historic Resources***

### **Archeological Sites**

The area that is now Pinnacles National Monument was used by the indigenous Ohlone and other tribal groups for hunting and gathering of food stuffs. Evidence of several temporary camps and resource utilization sites exist in the monument.

Four prehistoric sites are known on the west side of the monument. Three of the sites constitute the Chalone Creek Archeological Sites District, which is on the National Register of Historic Places. These sites are not within the project area.

The developed area at Chaparral has been surveyed for cultural resources by an archeologist from the NPS's Western Archeological Conservation Center. No cultural resources were observed as part of this survey (Corey 2002).

When the western lands were added to the national monument around 1980, they were surveyed for archeological resources. Approximately 40 acres comprising the proposed relocation area near the Monument's west entrance were covered thoroughly by means of pedestrian survey for cultural resources in 2002. No cultural resources were discovered within the area of potential effect for this project (Corey 2002).



## **Historic Sites**

Remains of a number of homesteads established in the monument during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries are known. An historic site has been found on the east side of the road but outside the area of potential effect (Site # CA-SBN-124H). It consists of the remains of an 1880s homestead that includes dry-laid rock fences and rock foundations for a residence and some outbuildings (Corey 2002). It will be documented for the List of Classified Structures in Fiscal Year 2003. This site has the potential to be interpreted as a representation of the homesteading period.

## **Visitor Use and Experience**

Pinnacles is a regional destination for day uses such as hiking, rock climbing and picnicking. The monument is especially popular during the late winter and early spring wildflower season. School groups at all grade levels visit to study geology and ecology.

There were 178,243 visits to Pinnacles in 2001 (from [www.nps.gov](http://www.nps.gov)). Monument staff indicate that there were approximately 54,000 visits to the West District in 2001. These numbers may increase as a result of the planned condor release. Current trends indicate that the balance of visitation may be shifting towards the west side. The monument currently uses the finite number of available parking spaces as a means of limiting carrying capacity. Current use of the proposed visitor contact station site is low and comprised of visitors who stop along the road to photograph the Pinnacles.

Visitor use at Pinnacles exhibits significant seasonal variation. There is a surge of visitation in late winter/early spring when wildflowers are blooming and the weather is comfortable for walking and hiking. Use falls off sharply in late May or early June when daytime temperatures begin to exceed 100°F. The monument is a day use area and the majority of visitors come from surrounding urban areas, so great variation between weekend and weekday traffic is experienced.

Visitors to the monument are extremely diverse, ranging from low income, non-english speaking migrant farm workers and their families, to highly educated, high-income Silicon Valley technical rock climbers. Regardless of their situation, the quality of visitor experience is important for all visitors.

Sounds of human activity prevail during heavy use periods in the Chaparral site. Noise from vehicles and people can be heard continuously at these times. During low-use periods, natural sounds predominate. The soundscape at the proposed site is largely natural, but occasionally disturbed by noise from vehicles passing by on the entrance road.

## **Health and Safety Concerns**

The Chaparral site is in an active seismic zone approximately 5 miles from the San Andreas Fault. None of the existing buildings are seismically reinforced. Existing structures also have molds, fungi, rodents and insects. Extensive efforts to remedy the situation have been largely unsuccessful due to the age and poor condition of the structures. The buildings have fire-vulnerable wood siding and they lack insulation, hardwired smoke detectors and fire suppression systems. Existing development is in a 20-year floodplain and has been flooded twice in the last seven years and three times in the last 19 years. The single vehicle escape route (entrance road) could be closed by flood, wildfire or earthquake, trapping visitors and park personnel.

## **Scenic Quality**

Overall scenic quality of the West District is high. The first views of the west side of the Pinnacles are from the entrance road in the area of the proposed facilities.

Scenic viewsheds from the High Peaks trail (in wilderness) are an important value to visitors. The existing facilities at Chaparral can be seen from the High Peaks trail and may impact some visitors' wilderness experience. Views to the west from High Peaks of the proposed development area are mostly natural but currently impacted by the entrance road and vehicles moving on it.

### ***Monument Operations***

Monument operations, for the purpose of this analysis, refers to the quality and effectiveness of the infrastructure used in the operation of the park in order to adequately protect and preserve vital resources and provide for an effective visitor experience. This topic also includes the quality of employee worklife.

There is no road connection in the monument between the east and west sides. The rugged range of mountains physically separating the east and west sides requires separate visitor services, ranger support facilities and maintenance facilities for the West District. Monument operations in the West District are currently hampered by the close confines of the existing facility. Natural meandering and widening of the nearby waterway continues to threaten the maintenance yard and building. This has required modification of the stream channel to protect the building. Despite this modification, the building has been flooded on several occasions. The deteriorating condition of the ranger residence trailer is unacceptable and its location right next to the visitor contact station is undesirable because of the lack of privacy.

# ENVIRONMENTAL CONSEQUENCES

## Introduction

This section describes the environmental consequences associated with the alternatives. It is organized by Impact Topics, which distill the issues and concerns into distinct topics for discussion analysis. These topics focus on the presentation of environmental consequences, and allow a standardized comparison between alternatives based on the most relevant topics. Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic. The following definitions apply to all impact topics.

## Duration

For all resources and values, the duration of impacts in this document is defined as follows:

*Short-term* – impacts that last less than two years.

*Long-term* – impacts that last longer than two years.

## Cumulative Effects

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act, require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." (40 CFR 1508.7). Cumulative impacts are considered for all alternatives and are presented at the end of each Impact Topic.

## Impairment of Park Resources or Values

In addition to determining the environmental consequences of the preferred and other alternatives, NPS *Management Policies* and Director's Order 12, *Conservation Planning, Environmental Impact Analysis and Decision-Making*, require analysis of potential effects to determine if actions would impair park resources.

The fundamental purpose of the National Park System, established by the Organic Act and reaffirmed by the General Authorities Act, begins with a mandate to conserve park resources and values. Park Service managers must always seek ways to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give managers the discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resource or values. The prohibited impairment is an impact that, in the professional judgement of the responsible manager, would harm the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park resource or value may constitute impairment. However, an impact would more likely constitute impairment to the extent it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park unit;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or



- identified as a goal in the park's General Management Plan or other relevant NPS planning documents.

No impairment will be allowed to occur. A determination of impairment is made for each natural and cultural resource impact topic in this document. If impairment is possible, the project element that would cause this will be altered or deleted.

## **ASSESSMENT OF ANTICIPATED IMPACTS**

### **Air Quality**

#### **Methodology**

Available information on air quality was compiled. Predictions about short- and long-term site impacts were based on previous studies of similar actions to air resources and recent data from park.

The thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** No perceptible visibility impacts likely, and no non-natural smells
- Minor:** Perceptible visibility impacts may occur based on past visual observation but are of very short duration and not visible to most people
- Moderate:** Perceptible visibility impact is likely based on past visual observation, but limited in duration, extent, and magnitude
- Major:** Visibility impacts are of long duration, can be frequently observed, or are over a broad area

### **IMPACTS OF ALTERNATIVE A - NO ACTION**

Under this alternative, there would be no new impacts to air quality in the monument. Existing impacts from visitor use and monument operations would continue.

#### ***Cumulative Effects***

Long-term adverse impacts to air quality from inside the monument occur from vehicle and equipment exhaust. Short-term impacts have occurred from construction or maintenance activities and include localized fugitive dust and increases in motorized equipment emissions. Visibility and air quality is adversely impacts by sources from outside the monument including windblown dust, natural aerosols and long-range transport of city pollution. This alternative would not add to the existing cumulative effects on the region's air quality.

#### ***Conclusion***

There would be no additional effects on air quality resulting from this alternative. Thus, there would be no impairment of monument resources or values.

### **IMPACTS OF ALTERNATIVE B - PREFERRED**

If the preferred alternative is implemented, hauling material and operating construction equipment would result in increased vehicle emissions. Volatile Organic Compounds, nitrogen compounds, carbon monoxide and sulfur dioxide emissions would generally disperse fairly quickly from the construction area. To mitigate the impacts of increased vehicle emissions, idling of construction vehicles would be limited.

Fugitive dust plumes from construction equipment and vehicle traffic would intermittently increase airborne particulate concentrations in the area near the project site, but this dust would have a negligible effect on regional particulate levels. Water or other reasonably available control measures would be applied as necessary to mitigate dust impacts.

In summary, local air quality would receive short-term, minor adverse affects from dust and vehicle emissions during the construction period. This degradation would last only as long as construction activities occurred. Overall monument air quality would be negligibly affected in the long-term from increased vehicle use.

### ***Cumulative Effects***

Long-term adverse impacts to air quality from inside the monument occur from vehicle and equipment exhaust. Short-term impacts have occurred from construction or maintenance activities and include localized fugitive dust and increases in motorized equipment emissions. Visibility and air quality is adversely impacts by sources from outside the monument including windblown dust, natural aerosols and long-range transport of city pollution. Short-term increase in motorized equipment emissions would have a negligible effect on regional pollutant levels. Overall, this alternative would contribute a negligible adverse amount to cumulative effects on the region's air quality.

### ***Conclusion***

This alternative would cause short-term, minor adverse impacts to local air quality and long-term, negligible adverse impacts from use of the new sites. There would be no impairment of monument resources or values.

## **IMPACTS OF ALTERNATIVE C**

If this alternative is implemented, hauling material and operating construction equipment would result in increased vehicle emissions. Volatile Organic Compounds, nitrogen compounds, carbon monoxide and sulfur dioxide emissions would generally disperse fairly quickly from the construction area. To mitigate the impacts of increased vehicle emissions, idling of construction vehicles would be limited.

Fugitive dust plumes from construction equipment and vehicle traffic would intermittently increase airborne particulate concentrations in the area near the project site, but this dust would have a negligible effect on regional particulate levels. Water or other reasonably available control measures would be applied as necessary to mitigate dust impacts.

Exhaust fumes from ongoing use of the diesel generator in addition to increased vehicle use would create long-term minor adverse impacts on local air quality.

### ***Cumulative Effects***

Long-term adverse impacts to air quality from inside the monument occur from vehicle and equipment exhaust. Short-term impacts have occurred from construction or maintenance activities and include localized fugitive dust and increases in motorized equipment emissions. Visibility and air quality is adversely impacts by sources from outside the monument including windblown dust, natural aerosols and long-range transport of city pollution. Short-term increase in motorized equipment emissions would have a negligible effect on regional pollutant levels. Overall, this alternative would contribute a negligible adverse amount to cumulative effects on the region's air quality.

### ***Conclusion***

This alternative would cause short-term, minor adverse impacts to local air quality and long-term, minor adverse impacts from operation of the new facilities. There would be no impairment of monument resources or values.

## **Soils**

### **Methodology**

The assessment of impacts to soils is based on information from the National Resource Conservation Service and park staff.

The thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** An action that could result in a change to soil, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor:** An action that could result in a change to soil, but the change would be small and localized and of little consequence.
- Moderate:** An action that would result in a change to soil; the change would be measurable and of consequence.
- Major:** An action that would result in a permanent loss or alteration of soil over a large area; the change would be measurable and result in a severely adverse or major beneficial impact.

### **IMPACTS OF ALTERNATIVE A - NO ACTION**

The No Action alternative would not affect soils in the area. There would be no project-related ground disturbance with the potential to impact these resources. There would be no changes in current conditions of soil, including runoff or permeability as a result of implementing this alternative.

#### ***Cumulative Impacts***

Because this alternative would not contribute to the impacts of other past, present and reasonably foreseeable future actions, there would be no project-related contribution to cumulative impacts to soils in the region.

#### ***Conclusion***

Soil resources would not be impacted or impaired by the no action alternative.

### **IMPACTS OF ALTERNATIVE B - PREFERRED**

Impacts to soils would occur anywhere there is surface-disturbing activity. Disturbance in this alternative would include the area around the new buildings and road construction to total approximately 6.5 acres. Impacts would include excavation, grading and surfacing by impermeable materials (e.g. concrete and asphalt). These actions would also disrupt natural percolation patterns of surface water into the underlying soil.

#### ***Cumulative Impacts***

Impacts to soils in and around Pinnacles NM are occurring on lands managed by the federal government, State of California, Bureau of Land Management and private landowners. In the past, present and foreseeable future these impacts include road construction or improvement; agriculture; construction of homes, businesses and associated utility lines; fences; and other development. Adverse impacts occur from natural erosion as well as the human activities listed previously, altering the soil moisture, temperature, profiles and other characteristics. The impacts of the preferred alternative would also be a small component of the overall cumulative effect. Adverse impacts of this alternative, together with other past and reasonably foreseeable future actions, would result in minor adverse cumulative impacts to soils in the region.

#### ***Conclusion***

Alternative B would have a minor, adverse long-term impact on monument soils. Because there would be no major adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of monument resources or values.



## IMPACTS OF ALTERNATIVE C

Impacts to soils would occur anywhere there is surface-disturbing activity. Disturbance in this alternative would include the area around the new buildings and road re-alignment to total approximately 6.4 acres. Impacts would include excavation, grading and surfacing by impermeable materials (e.g. concrete and asphalt). This action would also disrupt natural percolation patterns of surface water into the underlying soil.

### *Cumulative Impacts*

Impacts to soils in and around Pinnacles NM are occurring on lands managed by the federal government, State of California, Bureau of Land Management and private landowners. In the past, present and foreseeable future these impacts include road construction or improvement; agriculture; construction of homes, businesses and associated utility lines; fences; and other development. Adverse impacts occur from natural erosion as well as human activities, altering the soil moisture, temperature, profiles and other characteristics. Adverse impacts of this alternative, together with other past and reasonably foreseeable future actions, would result in minor adverse cumulative impacts to soils in the region.

### *Conclusion*

Alternative C would have a minor, adverse long-term impact on monument soils. Because there would be no major adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

## **Vegetation**

### **Methodology**

Available information on vegetative resources was compiled. Predictions about short- and long-term site impacts were based on previous studies of construction actions and visitor impacts to natural resources and recent data from park.

The thresholds of change for the intensity of an impact are defined as follows:

- |                    |   |
|--------------------|---|
| <b>Negligible:</b> | No native vegetation would be affected or some individual native plants could be affected as a result of the action, but there would be no effect on native species populations. The effects would be short-term, on a small scale, and no species of special concern would be affected.  |
| <b>Minor:</b>      | The action would affect some individual native plants and would also affect a relatively minor portion of that species' population. Mitigation to offset adverse effects, including special measures to avoid affecting species of special concern, could be required and would be effective.   |
| <b>Moderate:</b>   | The action would affect some individual native plants and would also affect a sizeable segment of the species' population in the long-term and over a relatively large area. Mitigation to offset adverse effects could be extensive, but would likely be successful. Some species of special concern could also be affected.           |
| <b>Major:</b>      | The action would have a considerable long-term effect on native plant populations, including species of special concern, and affect a relatively large area in and out of the monument. Mitigation measures to offset the adverse effects would be required, extensive, and success of the mitigation measures would not be guaranteed. |

## IMPACTS OF ALTERNATIVE A - NO ACTION

Under the no action alternative, there would be no project-related ground disturbance with the potential to impact vegetation. There would be no changes to the wetland or to the current status of vegetative species composition other than those brought about by natural environmental processes.

### *Cumulative Impacts*

Because this alternative would not contribute to the impacts of other past, present and reasonably foreseeable future actions, there would be no project-related contribution to cumulative impacts to vegetation in the region.

### *Conclusion*

Vegetative communities would not be impacted or impaired by the no action alternative.

## IMPACTS OF ALTERNATIVE B - PREFERRED

This alternative would result in the loss of forbs, grasses and shrubs within the area of construction. The construction zone would involve disturbing about 6.5 acres of the 24,000-acre monument (0.03%). While grasslands are Pinnacles National Monument's most limited habitat type, the proposed project site is previously disturbed and composed of mostly non-native species. After construction, disturbed areas not covered by structures would be revegetated with native species. There would be a minor, long-term impact on vegetative resource in the monument.

Three acres of currently-impacted riparian zone would be reclaimed as part of this alternative. This would be a long-term, minor beneficial impact to vegetation.

### *Cumulative Impacts*

Impacts to biotic communities in and around Pinnacles NM are occurring on lands managed by the federal government, State of California and private landowners. In the past, present and foreseeable future these impacts could include road construction or improvement; agriculture; construction of homes, businesses and associated utility lines; fences; and other development. Actions such as these can disrupt and destroy native vegetation or introduce exotic species that could out-compete native plants for limited resources. The minor adverse impacts of the preferred alternative, in conjunction with the adverse impacts of other past, present and reasonably foreseeable future actions, would result in minor adverse cumulative impacts to vegetation in the region.

### *Conclusion*

Overall impacts to vegetative resources of the monument from this alternative would be minor, long-term and adverse. Because there would be no major adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

## IMPACTS OF ALTERNATIVE C

This alternative would result in the loss of forbs, grasses and shrubs within the area of construction. This would be a moderate, long-term impact on these individual plants. The construction zone would involve about 6.4 acres of the monument.

Because parking lot capacity is now used to control the number of visitor on the West District, a new parking area could lead to increased visitation to the west side. Environmental effects from additional use on trails in the West District could include loss of vegetation from trail widening and increased social trails.

Three acres of currently-impacted riparian zone would be reclaimed as part of this alternative. This would create a moderate, long-term benefit to vegetation.

### *Cumulative Impacts*

Impacts to biotic communities in and around Pinnacles NM are occurring on lands managed by the federal government, State of California and private landowners. In the past, present and foreseeable future these impacts could include road construction or improvement; agriculture; construction of homes, businesses and associated utility lines; fences; and other development such as this alternative. Actions such as these can disrupt and destroy native vegetation or introduce exotic species that could out-compete native plants for limited resources. The moderate benefits and minor adverse impacts of the preferred alternative, in conjunction with the adverse impacts of present and reasonably foreseeable future actions, would result in minor adverse cumulative impacts to vegetation in the region.

### ***Conclusion***

Overall impacts to vegetative resources of the monument from this alternative would be minor, long-term and adverse. Because there would be no major adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

## **Wetlands and Floodplains**

### **Methodology**

Information on known natural resources was compiled. Where possible, map locations of wetlands and floodplains were compared with locations of proposed developments and modifications of existing facilities. Predictions about short- and long-term site impacts were based on previous studies of construction and visitor impacts to these resources and recent data from park staff.

The thresholds of change for the intensity of an impact are defined as follows:

- Negligible** Changes to floodplains or wetlands would be either non-detectable or if detected, would have effects that would be considered slight, local, and would likely be short-term.
- Minor** Changes to floodplains or wetlands would be measurable, although the changes would be small, would likely be short-term, and the effects would be localized. No mitigation measure associated with water quality or hydrology would be necessary.
- Moderate** Changes to floodplains or wetlands would be measurable and long-term but would be relatively local. Mitigation measures associated with water quality or hydrology would be necessary and the measures would likely succeed.
- Major** Changes to floodplains or wetlands would be readily measurable, would have substantial consequences, and would be noticed on a regional scale. Mitigation measures would be necessary and their success would not be guaranteed.

### **IMPACTS OF ALTERNATIVE A - NO ACTION**

Under the no action alternative, there would be no project-related ground disturbance with the potential to impact wetlands or floodplains. There would be no changes in current status of the wetland other than those brought about by natural environmental processes. There would be a continuation of minor adverse impacts from facilities remaining in the floodplain. No additional construction in a floodplain would occur.

### ***Cumulative Impacts***

Because this alternative would not directly contribute to the impacts of other past, present and reasonably foreseeable future actions. However, there would be a continuation of long-term, minor adverse impacts from facilities remaining in the floodplain. Thus, there would be a minor adverse contribution to cumulative impacts to floodplains in the region.



### ***Conclusion***

Under the No Action alternative, there would be no new impacts to floodplains or wetlands. There would be a continuation of long-term, minor adverse impacts from facilities remaining in the floodplain. No impairment of monument resources or values would result from this alternative.

### **IMPACTS OF ALTERNATIVE B - PREFERRED**

Adverse impacts to the small wetland area at the proposed site would be avoided by careful placement of the new buildings. Construction of the small shed at Chaparral would occur out of the main floodplain. Removal of the existing maintenance facility would result in a reduction of building footprint in the floodplain, a long-term beneficial impact.

### ***Cumulative Impacts***

Wetlands and floodplains in the region are being adversely affected by various commercial, agricultural and residential development. This development has and will result in minor to moderate, long-term adverse impacts such as wetland losses, natural watercourse alterations and floodplain disruptions. This alternative would result in a net reduction of development in a floodplain and thus would contribute a minor beneficial impact to the adverse cumulative impacts of other actions occurring on lands outside the monument.

### ***Conclusion***

This alternative would cause no impacts to wetlands and a minor, long-term beneficial impact on floodplains. It would not result in impairment of either of these resources.

### **IMPACTS OF ALTERNATIVE C**

Adverse impacts to the small wetland area would be avoided by careful placement of the new buildings. Construction of the small shed at Chaparral would occur out of the main floodplain. Removal of the existing maintenance facility would result in a reduction of building footprint in the floodplain, a long-term beneficial impact.

### ***Cumulative Impacts***

Wetlands and floodplains in the region are being adversely affected by various commercial, agricultural and residential development. This development has and will result in minor to moderate, long-term adverse impacts such as wetland losses, natural watercourse alterations and floodplain disruptions. This alternative would result in a net reduction of development in a floodplain and thus would contribute a minor beneficial impact to the adverse cumulative impacts of other actions occurring on lands outside the monument.

### ***Conclusion***

This alternative would have no effect on wetlands and a minor, long-term beneficial impact on floodplains. It would not result in impairment of either of these resources.

## **Wildlife**

### **Methodology**

All available information on known natural resources was compiled. Predictions about short- and long-term site impacts were based on previous studies of construction and visitor impacts to wildlife resources and recent data from monument staff.

The thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** an action that could result in a change to a population or individuals of a species, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor:** an action that could result in a change to a population or individuals of a species. The change would be small and localized and of little consequence.
- Moderate:** an action that would result in some change to a population or individuals of a species. The change would be measurable and of consequence to the species but more localized.
- Major:** an action that would have a noticeable change to a population or individuals of a species. The change would be measurable and result in a severely adverse or major beneficial impact, and possible permanent consequence, upon the species.

#### **IMPACTS OF ALTERNATIVE A - NO ACTION**

Under the no action alternative, there would be no project-related aural, visual or ground disturbance with the potential to impact wildlife. Any wildlife currently using the proposed site would continue using it in the same manner under this alternative. There would be no changes in the current status of wildlife communities either in terms of species composition or population dynamics other than those brought about by natural environmental processes.

Wildlife populations and habitat at the Chaparral site would continue to be impacted at the same level as currently.

#### ***Cumulative Impacts***

Because this alternative would not contribute to the impacts of other past, present and reasonably foreseeable future actions, there would be no project-related contribution to cumulative impacts to wildlife in the region.

#### ***Conclusion***

Impacts to wildlife populations or habitat would not be changed by the no action alternative. There would be no impairment of monument resources.

#### **IMPACTS OF ALTERNATIVE B - PREFERRED**

Ground-disturbing activity would cause most animals inhabiting the impacted area to be displaced. Of the 24,000-acre monument, approximately 6.5 acres of habitat would be disturbed and removed from availability. While grasslands are Pinnacles National Monument's most limited habitat type, the proposed project site is previously disturbed and composed of mostly non-native plant species.

Although animals may be somewhat used to traffic on the entrance road, the increased noise of construction and human presence associated with it would likely effect resident wildlife through temporary behavior modification (i.e. typical fear and aversion reactions) somewhat beyond the area of disturbance. Construction is expected to last 4 to 5 months. Long-term effects on wildlife would come from continued presence of humans concentrated around the visitor contact station. After construction, some smaller animals and birds may become accustomed to the new developments and return to use the grounds.

Construction in this alternative would occur in habitat that has been somewhat disturbed by mechanical manipulation of the native vegetation (chaining) and proliferation of non-native plants. Therefore, it provides lower quality wildlife habitat when compared to undisturbed land. This minimizes both the disturbance of wildlife and further impacts on habitat connections throughout the monument. As a result, impacts to wildlife would be adverse but minor.

Rehabilitating the 3 acres of riparian area at Chaparral would result in long-term benefits to wildlife with riparian habitat requirements.

Indirect effects on wildlife from this alternative would be beneficial and long-term because visitors learning about local wildlife at the visitor contact station may become more likely to appreciate and protect them.

### ***Cumulative Impacts***

Impacts to biotic communities in and around Pinnacles NM are occurring on lands managed by the federal government, State of California and private landowners. In the past, present and foreseeable future these impacts could include road construction or improvement; agriculture; construction of homes, businesses and associated utility lines; fences; and other development. Actions such as these can disrupt or fragment habitat, displace individuals or otherwise cause stress to animals. Incremental development of the region has affected the abundance and diversity of wildlife by changing the capacity of habitats to provide necessary food, shelter and reproduction sites. Wildlife is slowly becoming more restricted by current land uses, increasing development and human activity, causing individuals and populations to either adapt or move. These cumulative impacts are long-term, adverse and range in intensity from minor to moderate. This alternative would cause short-term adverse impacts, while rehabilitating a riparian area would provide long-term benefits.

The long-term minor adverse and beneficial impacts of the preferred alternative, in conjunction with the adverse impacts of other reasonable foreseeable future actions, would result in minor adverse cumulative impacts to wildlife in the region.

### ***Conclusion***

Implementing this alternative would result in minor, long-term adverse impacts to wildlife at the new site and negligible, long-term beneficial impacts at Chaparral. Because there would be no major, adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

### **IMPACTS OF ALTERNATIVE C**

Due to the disturbance of soil and vegetation, some animals inhabiting the impacted area would be displaced. Approximately 6.4 acres of habitat would be removed from the 24,000-acre monument. While grasslands are Pinnacles National Monument's most limited habitat type, the proposed project site is previously disturbed and composed primarily of non-native plant species. Although animals may be somewhat used to traffic on the entrance road, the increased noise of construction and human presence associated with it would likely effect resident wildlife through temporary behavior modification (i.e. typical fear and aversion reactions) beyond the area of disturbance. Construction is expected to last 4 to 5 months. Long-term effects on wildlife would come from continued presence of humans concentrated around the visitor contact station. After construction, some smaller animals may become used to the new developments and return to use the grounds.

Construction in this alternative would occur in habitat that has been somewhat disturbed by mechanical vegetative manipulation (chaining) and the proliferation of non-native plants. Therefore, it provides lower quality wildlife habitat when compared to undisturbed land. This minimizes both the disturbance of wildlife and further impacts on habitat connections throughout the monument. As a result, impacts to wildlife would be adverse but minor.

Rehabilitating the 3 acres of riparian area at Chaparral would restore this habitat resulting in a beneficial, long-term impact to wildlife with riparian habitat requirements.

### ***Cumulative Impacts***

Impacts to biotic communities in and around Pinnacles NM are occurring on lands managed by the federal government, State of California and private landowners. In the past, present and foreseeable future these impacts could include road construction or improvement; agriculture; construction of homes, businesses and associated utility lines; fences; and other development. Actions such as these can disrupt or fragment habitat, displace individuals or otherwise cause stress to animals. Incremental development of the region has affected the abundance and diversity of wildlife by changing the capacity of habitats to provide necessary food, shelter and reproduction sites. Wildlife is slowly becoming more restricted by current land uses, increasing development and human activity, causing individuals and populations to either adapt or move. These cumulative impacts are long-term, adverse and range in intensity from minor to moderate. This alternative would cause short-term adverse impacts, while rehabilitating a riparian area would provide long-term benefits.

The long-term minor adverse and beneficial impacts of the preferred alternative, in conjunction with the adverse impacts of other reasonable foreseeable future actions, would result in minor adverse cumulative impacts to wildlife in the region.

### ***Conclusion***

Implementing this alternative would result in minor, long-term adverse impacts to wildlife at the new site and negligible, long-term benefits at Chaparral. Because there would be no major, adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of this resource.

## **Special Status Species**

### **Methodology**

Information on possible threatened, endangered, candidate species and species of special concern was gathered from the U.S. Fish and Wildlife Service and park staff. Known habitat associated with threatened, endangered, candidate species and species of special concern were compared with locations of proposed developments and modifications of existing facilities. Known impacts caused by similar projects were also considered.

The thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** an action that could result in a change to a population or individuals of a species or designated critical habitat, but the change would be so small that it would not be of any measurable or perceptible consequence. The change would result in a *no effect* opinion from the U.S. Fish and Wildlife Service.
- Minor:** an action that could result in a change to a population or individuals of a species or designated critical habitat. The change would be measurable but small and localized and of little consequence, and result in a *not likely to adversely effect* opinion from the U.S. Fish and Wildlife Service.
- Moderate:** an action that would result in some change to a population or individuals of a species or designated critical habitat. The change would be measurable and of consequence but likely result in a *not likely to adversely effect* opinion from the U.S. Fish and Wildlife Service.
- Major:** an action that would result in a noticeable change to a population or individuals of a species or resource or designated critical habitat. The change would result in a *may adversely effect* opinion from the U.S. Fish and Wildlife Service.



## IMPACTS OF ALTERNATIVE A - NO ACTION

Under the no action alternative, there would be no project-related aural, visual or ground disturbance with the potential to impact special status species or their habitat. Any wildlife currently using the site would continue using it in the same manner under this alternative. No change from the current status of these species would result from implementation of this alternative.

### *Cumulative Impacts*

Because this alternative would not contribute to the impacts of other past, present and reasonably foreseeable future actions, there would also be no project-related cumulative impacts to listed, candidate or other sensitive species.

### *Conclusion*

The No Action alternative would have no effect on special status species.

## IMPACTS OF ALTERNATIVE B - PREFERRED

No federally listed species currently in the monument would be affected. A thorough survey for sensitive plants and animals would be conducted on the proposed site by monument staff prior to construction. If any are found, mitigation would be instigated to reduce or eliminate adverse impacts. One possible species in the area is the American badger, a California species of concern. Potential badger denning habitat in the area of the proposed construction would be lost. This would have a long-term adverse effect on some individuals within the monument but would not affect the overall population.

The Preferred Alternative involves construction that would permanently remove 6.5 acres of wildlife and plant habitat. There is no designated critical habitat in the project area. Most birds, reptiles and mammals would vacate the area as soon as construction begins. Some individuals may return to the area after they become accustomed to the increased human presence. Removal of facilities and rehabilitation of three acres of riparian area would allow wildlife to recolonize that acreage, a long-term beneficial impact.

The planned condor release site is on the east side of the monument, so there would be no direct impact on condors. Other potential impacts to reintroduced condors would depend on the timing of the release. Typical condor release operations involve acclimating the birds in on-site enclosures for several weeks prior to their release. If construction of the new facilities were completed by the time of release, then there would be negligible adverse impacts on the birds. If construction activities were occurring when the birds are released, there could be minor, adverse impacts resulting from the increased noise and human activity. Some condors in previous releases have been attracted to places of human congregation such as along the Colorado River in Grand Canyon National Park. Human contact may affect their ability to find food on their own. Consultation with the Fish and Wildlife Service regarding these potential impacts would be conducted by monument staff.

A minimum of trees and shrubs would be destroyed in this alternative. So impacts to bird nesting or roost sites would be negligible. However, Lawrence's goldfinch (a California species of concern) uses grasslands to forage, so this project, by impacting grasslands, has the potential to impact this species. While grasslands are Pinnacles National Monument's most limited habitat type, the proposed project site is previously disturbed and primarily composed of non-native species. Therefore, this would be a minor, long-term adverse impact on Lawrence's goldfinch. This alternative may adversely impact individuals of sensitive species, but is not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing or a loss of species viability range-wide.

This alternative may adversely impact individuals of species of concern, but is not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing or a loss of species viability

range-wide. Indirect effects on wildlife from this alternative would be beneficial and long-term because visitors learning about special status species at the visitor contact station may become more likely to appreciate them and less likely to harm them or their habitat.

### ***Cumulative Effects***

Wildlife and wildlife habitat in the region have been impacted by various actions such as road construction, utility lines, agriculture, recreation facilities and other types of commercial and private development. In the monument, this includes construction and maintenance of existing roads, trails and facilities. This disturbance often results in displacement of individual animals, either temporarily or long-term, and fragmentation or loss of habitat. These impacts are adverse, long-term, and vary in intensity from negligible to moderate. This alternative would have a negligible contribution to cumulative impacts of the actions identified above and other actions in the past, present and foreseeable future on sensitive species or habitat in the region.

### ***Conclusion***

Implementation of this alternative would have no effect on any federally listed species currently in the monument. It may affect, but not likely to adversely affect, California condors if they are released in the area during construction. It would cause negligible, long-term adverse impacts to species of concern identified in the project area and a negligible long-term beneficial impact to species using the restored riparian area. Because there would be no major, adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

### **IMPACTS OF ALTERNATIVE C**

No federally listed species currently on site would be affected. A thorough survey for endangered plants and animals would be conducted on the proposed site by monument staff prior to construction. If any are found, mitigation would be instigated to reduce or eliminate adverse impacts. One possible species in the area is the American badger. Any dens in the area of the proposed construction would be lost. This would have a long-term adverse effect on the population within the monument but would not affect the overall population.

Alternative C involves construction that would permanently remove 6.4 acres of wildlife and plant habitat. There is no designated critical habitat in the project area. Most birds, reptiles and mammals would vacate the area as soon as construction begins, an adverse impact. Some individuals may return to the area after they become accustomed to the increased human presence. Removal of facilities and rehabilitation of three acres of riparian area would allow wildlife to recolonize those acres, a beneficial impact.

The planned condor release site on the east side of the monument, so there would be no direct impact on condors. Other potential impacts to reintroduced condors would depend on the timing of the release. Typical condor release operations involve acclimating the birds in on-site enclosures for several weeks prior to their release. If construction of the new facilities were completed at the time of release, then there would be negligible adverse impacts on the birds. If construction activities were occurring when the birds are released, there could be minor, adverse impacts resulting from the noise and human activity. Some condors in previous releases have been attracted to places of human congregation such as along the Colorado River. Human contact may reduce their ability to find food on their own. Consultation with the Fish and Wildlife Service regarding these potential impacts would be conducted by monument staff.

A minimum of trees and shrubs would be destroyed in this alternative. So impacts to bird nesting or roost sites would be negligible. However, Lawrence's goldfinch (a California species of concern) uses grasslands to forage, so this project, by impacting grasslands, has the potential to impact this species. While grasslands are Pinnacles National Monument's most limited habitat type, the proposed project site is previously disturbed and primarily composed of non-native species. Therefore, this would be a minor, adverse impact on Lawrence's goldfinch. This alternative may adversely impact individuals of sensitive

species, but is not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing or a loss of species viability range-wide.

### ***Cumulative Effects***

Wildlife and wildlife habitat in the region have been impacted by various actions such as road construction, utility lines, agriculture, recreation facilities and other types of commercial and private development. In the monument, this includes construction and maintenance of existing roads, trails and facilities. This disturbance often results in displacement of individual animals, either temporarily or long-term, and fragmentation or loss of habitat. These impacts are adverse, long-term, and vary in intensity from negligible to moderate. This alternative would have a negligible contribution to cumulative impacts of the actions identified above and other actions in the past, present and foreseeable future on sensitive species or habitat in the region.

### ***Conclusion***

Implementation of this alternative would have no effect on any federally listed species currently in the monument. It has the potential to affect, but is not likely to adversely affect, California condors if they are released in the area during construction. It would cause negligible, long-term adverse impacts to species of concern identified in the project area and a negligible, long-term beneficial impact to species using the restored riparian area. Because there would be no major, adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

## **Archeological and Historic Resources**

### **Methodology**

The assessment of impacts on cultural resources was made in accordance with regulations of the Advisory Council on Historic Preservation (36 CFR 800) implementing Section 106 of the National Historic Preservation Act. Following a determination of the areas of potential effect, cultural resources were identified within these areas that are either listed in or eligible for listing in the National Register of Historic Places.

For this analysis, intensity or severity of the impact is as defined as follows:

**Negligible:** Impact is at the lowest levels of detection - barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be *no adverse effect*.

**Minor:** **Adverse impact** - impact would not affect the character defining features of a National Register of Historic Places eligible or listed structure or building. For purposes of Section 106, the determination of effect would be *no adverse effect*.

**Beneficial impact** - stabilization/ preservation of character defining features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, to maintain existing integrity of a structure or building. For purposes of Section 106, the determination of effect would be *no adverse effect*.

**Moderate:** **Adverse impact** - impact would alter a character defining feature(s) of the structure or building but would not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be *no adverse effect*.

**Beneficial impact** - rehabilitation of a structure or building in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, to make possible a compatible use of the property while preserving its character defining

features. For purposes of Section 106, the determination of effect would be *no adverse effect*.

**Major:** **Adverse impact** - impact would alter a character defining feature(s) of the structure or building, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be *adverse effect*.

**Beneficial impact** – restoration in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, to accurately depict the form, features, and character of a structure or building as it appeared during its period of significance. For purposes of Section 106, the determination of effect would be *no adverse effect*.

**Impacts to Cultural Resources and Section 106 of the National Historic Preservation Act:** In this environmental assessment, impacts to cultural resources are described in terms of type, context, duration, and intensity, as described above, which is consistent with the regulations of the Council on Environmental Quality (CEQ) that implement the National Environmental Policy Act (NEPA). These impact analyses are intended, however, to comply with the requirements of both NEPA and Section 106 of the National Historic Preservation Act (NHPA). In accordance with the Advisory Council on Historic Preservation's regulations implementing Section 106 of the NHPA (36 CFR Part 800, *Protection of Historic Properties*), impacts to cultural resources were identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in or eligible to be listed in the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register; and (4) considering ways to avoid, minimize or mitigate adverse effects.

Under the Advisory Council's regulations a determination of either *adverse effect* or *no adverse effect* must also be made for affected cultural resources. An *adverse effect* occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion in the National Register, e.g. diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5, *Assessment of Adverse Effects*). A determination of *no adverse effect* means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the National Register.

CEQ regulations and the National Park Service's *Conservation Planning, Environmental Impact Analysis and Decision-making* (DO-12) also call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, e.g. reducing the intensity of an impact from major to moderate or minor. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined by Section 106 is similarly reduced. Although adverse effects under Section 106 may be mitigated, the effect remains adverse.

A Section 106 summary is included in the impact analysis sections for cultural resources under each alternative. The Section 106 Summary is intended to meet the requirements of Section 106 and is an assessment of the effect of the undertaking (implementation of the alternative) on cultural resources, based upon the criterion of effect and criteria of adverse effect found in the Advisory Council's regulations.

## IMPACTS OF ALTERNATIVE A - NO ACTION



Under the no action alternative, there would be no project-related ground disturbance with the potential to impact archeological or historic resources.

#### ***Cumulative Impacts***

Natural erosional processes, benign neglect and some visitor use pressures have adversely affected some cultural sites in the monument. Because this alternative would not contribute to the impacts of other past, present and reasonably foreseeable future actions, there would be no project-related cumulative impacts to archeological resources.

#### ***Conclusion***

There would be no adverse effect on cultural resources caused by the no action alternative.

***Section 106 Summary.*** In accordance with the Advisory Council on Historic Preservation's regulations (36 CFR 800) implementing Section 106 of the National Historic Preservation Act, this alternative would result in a determination of "no historic properties affected."

### **IMPACTS OF ALTERNATIVE B - PREFERRED**

Construction in this alternative would not disturb any known archeological sites. Archeological surveys conducted by qualified NPS personnel determined that the proposed project area of potential effect does not contain any prehistoric sites or artifacts that would be affected by the proposal. According to the NPS's Western Archeological Conservation Center, the following condition should be a part of any contract awarded, "if concealed archeological resources are encountered during project activities, all necessary steps will be taken to protect them and to notify the park consulting archeologist."

The historic homestead located near the proposed project area would not be directly impacted by this alternative. However, there could be an increase in public visitation due to its proximity to the proposed visitor contact station. Unmanaged visitation could cause adverse impacts by further degrading the site's integrity. Public visitation would not be encouraged until a plan for the site is developed. Methods of mitigating impacts could include fencing off the site, stabilization and/or increased interpretation. This would reduce the intensity of potential adverse impacts to minor.

#### ***Cumulative Impacts***

Some archeological and historic resources at Pinnacles NM have been adversely impacted from activities occurring before establishment of the current monument boundaries and/or as a result of inadvertent impacts prior to the legal requirements for archeological survey, site protection, and mitigation. Visitor use pressures and natural erosional processes may have also contributed to past impacts. Combined with increasing visitor use in the area, other current and foreseeable construction projects also have the potential to cause long-term minor to moderate adverse impacts to these resources as a result of ground disturbance. In conjunction with the impacts of other past, present and reasonably foreseeable future actions, implementation of the preferred alternative would contribute a negligible amount to cumulative impacts on cultural resources in the monument.

#### ***Conclusion***

There would be a minor, long-term adverse impact to historic resources in the project area. There would be no effect on archeological resources. Because there would be no major, adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

***Section 106 Summary.*** In accordance with the Advisory Council on Historic Preservation's regulations (36 CFR 800) implementing Section 106 of the National Historic Preservation Act, the preferred

alternative would result in a determination of "no historic properties affected." This determination is based on an evaluation that there are no properties listed or identified as eligible for the National Register.

#### **IMPACTS OF ALTERNATIVE C**

Construction in this alternative would not disturb any known archeological sites. Archeological surveys conducted by qualified NPS personnel determined that the proposed project site does not contain any prehistoric sites or artifacts that would be affected by the proposal.

The historic homestead located near the proposed project area would not be directly impacted by this alternative. However, there could be an increase in public visitation due to its proximity to the proposed visitor contact station. Unmanaged visitation could cause adverse impacts by further degrading the site's integrity. Public visitation would not be encouraged until a plan for the site is developed. Methods of mitigating impacts could include fencing off the site, stabilization and/or increased interpretation. This would reduce the intensity of potential adverse impacts to minor.

#### ***Cumulative Impacts***

Some historic structures at Pinnacles NM have been adversely impacted from activities occurring before establishment of the current monument boundaries and/or as a result of inadvertent impacts prior to the legal requirements for archeological survey, site protection, and mitigation. Visitor use pressures and natural erosional processes have also contributed to past impacts. Combined with increasing visitor use in the area, other current and foreseeable construction projects also have the potential to cause long-term minor to moderate adverse impacts to these resources as a result of ground disturbance. In conjunction with the impacts of other past, present and reasonably foreseeable future actions, implementation of the preferred alternative would contribute a negligible amount to cumulative impacts on cultural resources in the monument.

#### ***Conclusion***

There would be a minor, long-term adverse impact to historic resources in the project area. There would be no effect on archeological resources. Because there would be no major, adverse impacts to a key resource or value of Pinnacles National Monument, there would be no impairment of these resources or values.

***Section 106 Summary.*** In accordance with the Advisory Council on Historic Preservation's regulations (36 CFR 800) implementing Section 106 of the National Historic Preservation Act, this alternative would result in a determination of "no historic properties affected." This determination is based on the evaluation that there are no historic properties that are listed or identified as eligible for the National Register.

### **Visitor Use and Experience**

#### **Methodology**

Visitor surveys and personal observation of visitation patterns combined with assessment of what is available to visitors under current management were used to estimate the effects of the actions in the various alternatives. The impact on the ability of the visitor to experience a full range of park resources was analyzed by examining resources mentioned in the park's significance statement.

The thresholds of change for the intensity of an impact are defined as follows:

**Negligible:** the impact is barely detectable, and/or will affect few visitors.

- Minor:** the impact is slight but detectable, and/or will affect some visitors.
- Moderate:** the impact is readily apparent and/or will affect many visitors.
- Major:** the impact is severely adverse or exceptionally beneficial and/or will affect the majority of visitors.

#### IMPACTS OF ALTERNATIVE A - NO ACTION

Visitor experience at the monument would continue at the same level it is today. The small, inadequate visitor contact station would remain the only source of visitor information in the West District. No new interpretation would be implemented as a result of this alternative.

Safety concerns for visitors and park personnel would continue. The one route into the closed canyon at Chaparral could be blocked by flood, fire or rock fall, or damage from an earthquake. This could cause visitors to be trapped until repairs could be made. Existing structures are not seismically reinforced and could collapse in an earthquake.

Soundscapes at Chaparral would not change.

#### *Cumulative Impacts*

Other current and foreseeable projects in the area have the potential to affect monument visitation. Designation of Wilderness in the monument has enhanced opportunities for solitude but has excluded many visitors from enjoying that portion of the monument now designated, an adverse impact. Tourism-related visits to the region are occurring on lands managed by the National Park Service, Bureau of Land Management and private landowners. Visitation levels are currently not substantially increasing. This alternative would not cause a change in visitation to the area from current and projected levels and, therefore, would not contribute to the cumulative impacts of other past, present and reasonably foreseeable future actions, to the type or level of visitation in the region.

#### *Conclusion*

Implementing the No Action alternative would cause the continuation of minor, long-term adverse impacts to opportunities for visitors to have a pleasant and safe experience.

#### IMPACTS OF ALTERNATIVE B - PREFERRED

Visitors would gain opportunities for understanding and a sense of appreciation of natural and cultural resources from interpretive displays and views of the geologic landscape. In case of road closures in the canyon, visitors could still visit the contact station to receive monument information and view the Pinnacles. While the road to Chaparral could still be closed by acts of nature, there could be fewer visitors in that area because some would remain at the new facility.

This alternative would benefit visitors by providing accessible visitor use facilities shortly after entering the monument. Visitors would not have to drive the steep and winding road to Chaparral to receive monument information. A more attractive facility, additional restrooms, compelling exhibits, and visitor programs would be provided. These factors would increase opportunities for high quality visitor experiences resulting in long-term beneficial impacts.

The existing visitor contact station would remain open until the new station is completed. Construction activity could create traffic slowdowns or short stoppages. Visitor experience would receive minor, short-term adverse impacts during the construction period.

A negligible long-term beneficial impact to the soundscape at Chaparral would result from the removal of the generator. The existing soundscape at the proposed site would receive minor long-term adverse impacts from the sounds of human activity.

#### ***Cumulative Impacts***

Other current and foreseeable projects in the area have the potential to affect monument visitation. Designation of Wilderness in the monument has enhanced opportunities for solitude but has excluded many visitors from enjoying that portion of the monument. Tourism-related visits to the region are occurring on lands managed by the National Park Service, Bureau of Land Management and private landowners. Visitation levels are currently not substantially increasing. This alternative would cause both adverse and beneficial impacts to visitor experience. Overall, it would contribute a minor beneficial impact to the cumulative impacts of other past, present and reasonably foreseeable future actions, to visitor use and experience in the region.

#### ***Conclusion***

This alternative would cause minor, short-term adverse impacts on visitors during construction and a moderate, long-term benefit to visitor experience and safety afterwards. Soundscapes would receive minor to moderate long-term adverse impacts.

#### **IMPACTS OF ALTERNATIVE C**

Visitors would receive some benefit from this alternative. In case of road closures in the canyon, visitors could still visit the contact station and receive monument information. Visitors would gain some understanding and a sense of appreciation of natural and cultural resources from the views of natural geologic landscapes and limited interpretive displays. While the road to Chaparral could still be closed by acts of nature, there could be fewer visitors in that area because some would stay at the new facility.

This alternative would benefit visitors by providing visitor use facilities shortly after entering the monument. Visitors would not have to drive the steep and winding road to Chaparral to receive monument information. A new facility with additional restrooms and parking would be provided. These factors would increase opportunities for high quality visitor experiences resulting in long-term beneficial impacts.

No funding for interpretation is provided in this alternative, so visitors would learn about the monument from sources such as brochures or contact with park rangers.

Visitor experience could be adversely impacted during the construction period. There could be traffic slowdowns or short-term stoppages during construction. After construction, visitor experience at the new facility would be adversely affected by constant noise from the generator.

A negligible, long-term beneficial impact to the soundscape at Chaparral would result from the removal of the generator. The existing soundscape at the proposed site would receive minor to moderate, long-term adverse impacts from the sounds of the diesel generator and human activity.

#### ***Cumulative Impacts***

Other current and foreseeable projects in the area have the potential to affect monument visitation. Designation of Wilderness in the monument has enhanced opportunities for solitude but has excluded many visitors from enjoying that portion of the monument. Tourism-related visits to the region are occurring on lands managed by the National Park Service, Bureau of Land Management and private landowners. Visitation levels are currently not substantially increasing. This alternative would cause both adverse and beneficial impacts to visitor experience. Overall, it would contribute a minor beneficial impact to the cumulative impacts of other past, present and reasonably foreseeable future actions, to visitor use and experience in the region.

### ***Conclusion***

There would be short-term, minor adverse impacts on visitors during construction and a minor, long-term benefit to visitor experience and safety after construction. Soundscapes would receive moderate long-term adverse impacts.

## **Scenic Quality**

### **IMPACTS OF ALTERNATIVE A - NO ACTION**

No changes to existing viewsheds, either adverse or beneficial, would occur under this alternative. Scenic quality along the entrance road or from the wilderness would not be affected.

### ***Cumulative Impacts***

Other current and foreseeable projects in the area have the potential to affect scenic quality in and around the monument. Agricultural, commercial and residential development in the surrounding area and communities has had a long-term adverse effect on natural scenes. Designation of Wilderness in the monument has enhanced opportunities to protect scenic quality in that portion of the monument. This alternative would not contribute to other past, present and reasonably foreseeable future actions, to natural scenery in the region, resulting in no cumulative impacts.

### ***Conclusion***

Scenic quality would not be affected by the no action alternative.

### **IMPACTS OF ALTERNATIVE B - PREFERRED**

Scenic views from the road would be adversely affected in the short-term by construction activity. Scenic quality along the entrance road would receive long-term, moderate adverse affects from the new visitor facility. Visitors using viewing areas at the new facility would experience unobstructed views of the Pinnacles.

Scenic viewsheds from the High Peaks trail would receive long-term adverse impacts from this alternative because of the new structures and microwave antenna. These impacts would be mitigated by careful placement of the new facilities and coloration, and so are anticipated to be minor.

### ***Cumulative Impacts***

Other current and foreseeable projects in the area have the potential to affect scenic quality in and around the monument. Agricultural, commercial and residential development in the surrounding area and communities has had a long-term adverse effect on natural scenes. Designation of Wilderness in the monument has enhanced opportunities to protect scenic quality in that portion of the monument. This alternative would cause both adverse and beneficial impacts to scenic quality. Overall, it would contribute a minor adverse impact to the adverse impacts of other past, present and reasonably foreseeable future actions, to natural scenery in the region, resulting in long-term, minor to moderate adverse cumulative impacts.

### ***Conclusion***

Scenic quality would receive negligible, long-term benefits and moderate long-term adverse impacts.

### **IMPACTS OF ALTERNATIVE C**

Scenic views from the entrance road would be adversely affected by construction in the short-term. Scenic quality along the entrance road would receive long-term, moderate adverse affects from the new



visitor facility. Visitors using viewing areas at the new facility would experience unobstructed views of the Pinnacles.

Scenic viewsheds from the High Peaks trail would receive long-term adverse impacts from this alternative because of the new structures and microwave antenna. These impacts would be mitigated by careful placement of the new facilities and coloration, and so are anticipated to be minor.

#### ***Cumulative Impacts***

Other current and foreseeable projects in the area have the potential to affect scenic quality in and around the monument. Agricultural, commercial and residential development in the surrounding area and communities has had a long-term adverse effect on natural scenes. Designation of Wilderness in the monument has enhanced opportunities to protect scenic quality in that portion of the monument. This alternative would cause both adverse and beneficial impacts to scenic quality. Overall, it would contribute a minor adverse impact to the adverse impacts of other past, present and reasonably foreseeable future actions, to natural scenery in the region, resulting in long-term, minor to moderate adverse cumulative impacts.

#### ***Conclusion***

Scenic quality would receive negligible, long-term benefits and moderate long-term adverse impacts.

### **Monument Operations**

#### **Methodology**

Professional judgment and park staff knowledge was used to evaluate the impacts of each alternative on monument operations and employee worklife quality. Definitions for levels of impacts to monument operations are as follows:

- Negligible:** an action that could change the operations of the park, but the change would be so small that it would not be of any measurable or perceptible consequence.
- Minor:** an action that could change the operations of the park but the change would be slight and localized with few measurable consequences.
- Moderate:** an action that would result in readily apparent changes to park operations with measurable consequences.
- Major:** a severely adverse or exceptionally beneficial change in park operations.

#### **IMPACTS OF ALTERNATIVE A**

In the No Action Alternative, the West District would continue to be managed under existing conditions and situations. Existing inadequate facilities would continue to be used. Occasional flooding of the maintenance facility would continue to be a problem. The unacceptable situation of having the ranger residence in a public use area would continue. Radio contact coverage on the West District would continue to be spotty. These factors create moderate, long-term adverse impacts on monument operations.

#### ***Cumulative Impacts***

The maintenance staff for a national park unit typically has their workload planned out months in advance. This leaves little time for unplanned but necessary actions, such as repairing a failing structure or flood damage. Other actions in the West District include preventative and regular maintenance of buildings, utilities, roads and trails. The No Action Alternative would add unpredictably to the workload and thus contribute an adverse effect to cumulative impacts on park operations.

***Conclusion***

The No Action alternative would cause a minor, long-term adverse impact to monument operations that could increase to moderate as the structures age.

## **IMPACTS OF ALTERNATIVE B**

Alternative B would provide a larger maintenance building, yard and storage areas for wildland fire fighting and emergency medical equipment that is away from public use areas. Office space and standardized housing would be provided for permanent and seasonal monument employees. Radio communications would be improved. This would result in moderate, long-term benefits for monument operations.

A minor, short-term adverse impact on monument staff could occur during construction as personnel time is needed to oversee the work, monitor resources, or conduct other tasks in support of the project.

### ***Cumulative Impacts***

Monument staff have a full workload conducting day-to-day activities involved with resource management and visitor services. In addition, there are occasional large-scale projects such as road improvements or other construction that require additional staff time. Other actions affecting park operations include preventative and regular maintenance of buildings, utilities, roads and trails. By replacing the existing facilities, this alternative would reduce the annual maintenance and repair workload and thus reduce the cumulative adverse effects on park operations.

### ***Conclusion***

This alternative would result in minor, short-term adverse impacts and moderate, long-term beneficial impacts for monument operations.

## **IMPACTS OF ALTERNATIVE C**

Alternative C would provide a new maintenance building, yard and storage areas for wildland fire fighting and emergency medical equipment that is separated from public use areas. The maintenance facility and equipment caches would be smaller in this alternative. Office space and standardized housing would be provided for monument staff. Radio communications would be improved. These features would result in minor, long-term benefits for monument operations.

A minor, short-term adverse impact on monument staff could occur during construction as personnel time is needed to oversee the work, monitor resources, or conduct other tasks in support of the construction. Increased costs to monument operations (about \$20,000 per year) to operate and maintain the generator would be a long-term adverse effect.

### ***Cumulative Impacts***

Monument staff have a full workload conducting day-to-day activities involved with resource management and visitor services. In addition, there are occasional large-scale projects such as road improvements or other construction that require additional staff time. Other actions affecting park operations include preventative and regular maintenance of buildings, utilities, roads and trails. By replacing the existing facilities, this alternative would reduce the annual workload and thus reduce the cumulative adverse effects on park operations.

### ***Conclusion***

This alternative would result in minor short-term adverse impacts to monument operations, and both minor beneficial and minor adverse impacts in the long-term.

# **CONSULTATION AND COORDINATION**

## ***Public Involvement***

This Environmental Assessment (EA) will be made available for a 30-day public review. Comments submitted during this period will be analyzed. Substantive comments will be addressed as errata sheets attached to the Finding of No Significant Impact (FONSI) or the Environmental Assessment will be revised.

## ***Preparers and Contributors***

Matthew Safford, Natural Resources Specialist, Denver Service Center  
Tom Leatherman, Chief of Research and Resource Management, Pinnacles NM  
Amy L. Fesnock, Wildlife Biologist, Pinnacles NM  
Chad Moore, Physical Scientist, Pinnacles NM  
Paul Johnson, Wildlife Biologist, Pinnacles NM  
Karen Dennis, Environmental Protection Specialist, Pinnacles NM  
Jodie Petersen, Landscape Architect/Job Captain, Denver Service Center  
Miguel Casias, Project Manager, Denver Service Center

## ***Selected References***

### **Executive Orders**

Executive Order 11988, Floodplains

### **Director's Orders**

DO 28, Cultural Resource Management Guidelines  
DO 77-2, Floodplain Management

### **References Cited**

Corey, Christopher, 2002. Trip Report, Project PINN 2001 A. On file at Western Archeological and Conservation Center, 1415 N. 6<sup>th</sup> Ave., Tucson, Arizona, 85705.

National Park Service, 1976. Pinnacles National Monument Master Plan. Western Regional Office, San Francisco, California.

\_\_\_\_\_, 1991. Development Concept Plan and Environmental Assessment, West District, Pinnacles National Monument. Western Regional Office, San Francisco, California.

Natural Resources Conservation Service, 2002. Letter, prime farmland lists and soil survey map sheets for Monterey and San Benito counties. District Conservationist Office, Hollister, California.

U.S. Fish and Wildlife Service, 2001. Species List for Environmental Assessment for the Pinnacles National Monument, Monterey and San Benito Counties, California. Endangered Species Division, Sacramento Fish and Wildlife Office, Sacramento, California.

## Appendix - List of Threatened, Endangered and Sensitive Species

The following list was provide by the U.S. Fish and Wildlife Service in a memorandum (USFWS 2001):

### Endangered and Threatened Species that May Occur in or be Affected by Projects in the Selected Quads Listed Below

Reference File No. 1-1-02-SP-277

November 26, 2001

#### QUAD: 341B NORTH CHALONE PEAK

Common Name	Scientific Name	Status	Comment*
Giant kangaroo rat	<i>Dipodomys ingens</i>	E	not in park
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	E	not in park
California red-legged frog	<i>Rana aurora draytonii</i>	T	in park, not close to project site
California tiger salamander	<i>Ambystoma californiense</i>	CSC	surrounding park but not in park
San Joaquin (=Nelson's) antelope squirrel	<i>Ammospermophilus nelsoni</i>	CA	not in park
Pacific western big-eared bat	<i>Corynorhinus townsendii townsendii</i>	SC	in park, not close to project site, not expected to be impacted
Greater western mastiff-bat	<i>Eumops perotis californicus</i>	SC	in park, not close to project site, not expected to be impacted
Tricolored blackbird	<i>Agelalus tricolor</i>	SC	not in park
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SC	not in park
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	SC	not in park
Costa's hummingbird	<i>Calypte costae</i>	SC	in park, not close to project site
Lawrence's goldfinch	<i>Carduelis lawrencei</i>	SC	this species does use grasslands to forage, so this project, by impacting grasslands has a chance of impacting this species, however we do not have enough data to



			determine if this impact would effect the population.
Vaux's swift	<i>Chaetura vauxi</i>	SC	in park, not close to project site
Black tern	<i>Chidonias niger</i>	SC	not in park
Long-billed curlew	<i>Numenius americanus</i>	SC	not in park
Salinas Valley (=hooked) popcorn flower	<i>Plagiobothrys uncinatus</i>	SC	Possible in park and at project site, but no data

\* Comments provided by Pinnacles National Monument staff

Below is the list of sensitive species, from the California Department of Fish and Game, occurring in or near the monument (species that could be in the project area are highlighted).

**Species of Special Concern/Threatened Species/Endangered Species  
occurring or potentially occurring within Pinnacles National Monument**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
<u>Insects</u>		
Pinnacles shieldback katydid	Idiostatus kathleene	CSC*
Pinnacles riffle beetle	Optioservus canus	CSC*
<u>Fish</u>		
Sacramento Perch	Archoplites inerruptus	CSC*
<u>Amphibians</u>		
California tiger salamander	Amnbystoma californiense	CSC*1
Western spadefoot	Scaphiopus hammondii	CSC 2
California red-legged frog	Rana aurora draytonii	FT
Foothill yellow-legged frog	Rana boylli	CSC*2
<u>Reptiles</u>		
Southwestern pond turtle	Clemmys marmorata pallida	CSC*
Silvery legless lizard	Anniella pulchra pulchra	CSC
Coach Whip	Masticophis flagellum	CSC
Two-striped garter snake	Thamnophis hammondii	CSC
<u>Birds</u>		
California condor	Gymnogyps californicus	SE/FE 2.
Cooper's hawk	Accipter cooperi	CSC
Sharp-shinned hawk	Accipter straitus	CSC
Golden eagle	Aquila chrysaetos	CSC
White-tailed kite	Elanus	CSC
Prairie falcon	Falco mexicanus	CSC
Peregrine falcon	Falco peregrinus	SE/FE
Long-eared owl	Asio otus	CSC

### Mammals

Pallid bat	<i>Antrozous pallidus</i>	CSC
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	CSC*
Western mastiff bat	<i>Eumops perotis californicus</i>	CSC*
Big-eared kangaroo rat	<i>Dipodomys elephantinus</i>	CSC*
American badger	<i>Taxidea taxus</i>	CSC

### Plants

Spring Lessingia	<i>Lessingia tenuis</i>	CSC
Hooked Popcorn Flower	<i>Plagiobothrys uncinatus</i>	CSC
Slender Nemacladus	<i>Nemacladus gracilis</i>	CSC
Pretty Face	<i>Triteleia lugens</i>	CSC
Indian Valley Bush Mallow	<i>Malacothamnus aboriginum</i>	CSC
Brewer's Clarkia	<i>Clarkia breweri</i>	CSC
Virgate Eriastrum	<i>Eriastrum virgatum</i>	CSC
Paso Robles Navarretia	<i>Navarretia jaredii</i>	CSC 3
Douglas' Spineflower	<i>Chorizanthe duoglasii</i>	CSC
Pinnacles Buckwheat	<i>Eriogonum nortonii</i>	CSC
Coastal Larkspur	<i>Delphinium californicum interius</i>	CSC

### Key:

F = Federal

S = State

E = Federally listed Endangered

T = Federally listed Threatened

CA = Candidate for listing

SC = Federal Species of Concern

CSC = California Species of Special Concern

\* = Category 1 and 2 species before revoked in 1996

1 = occur around PINN and have habitat within PINN, but have not been confirmed

2 = historically occurred in PINN, but are believed to be locally extirpated

3 = questionable identification from PINN

## **Maps and Drawings**

Maps, site plans and design drawings follow this page.

Figure 1. Location Map

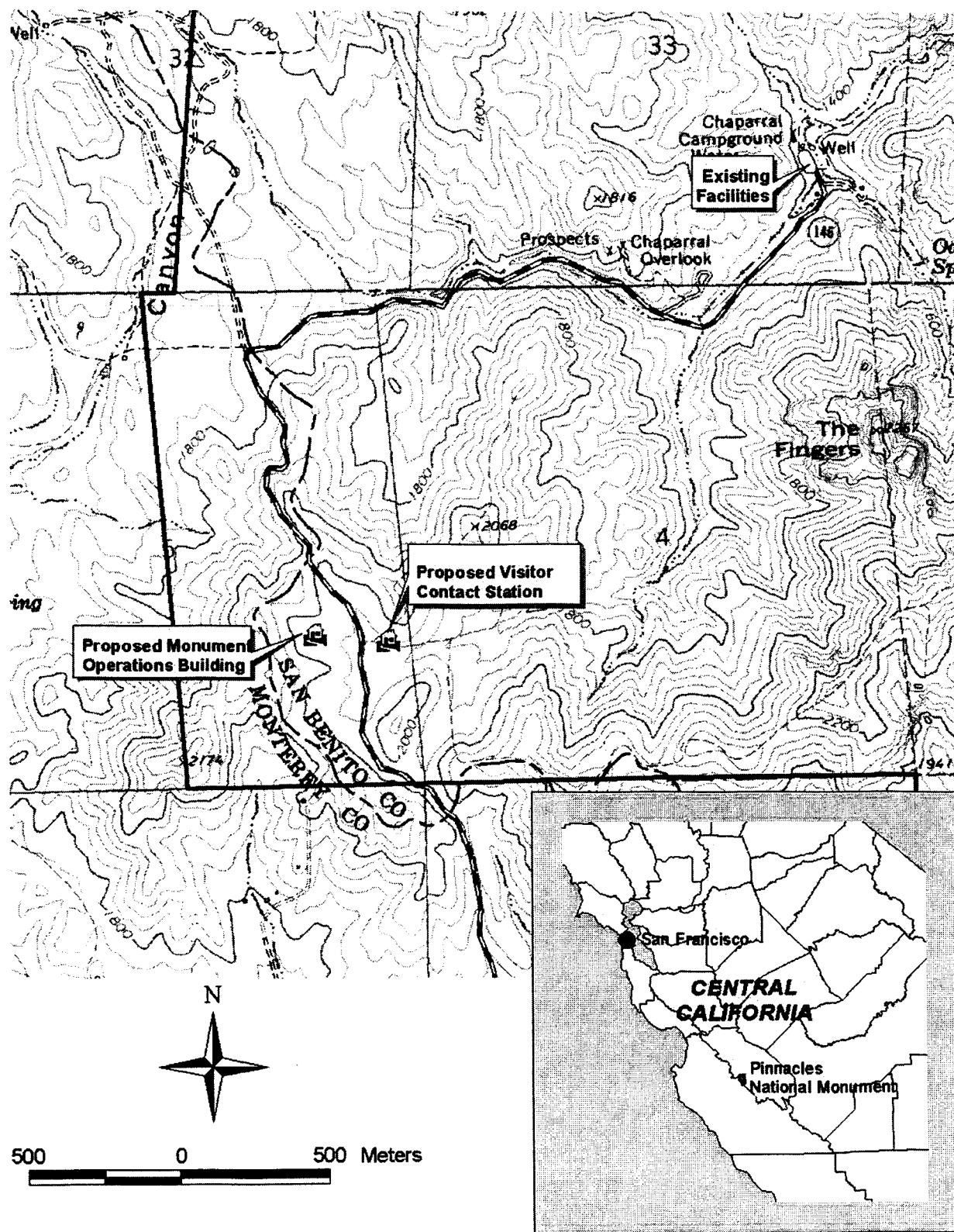


Figure 2. Proposed Site

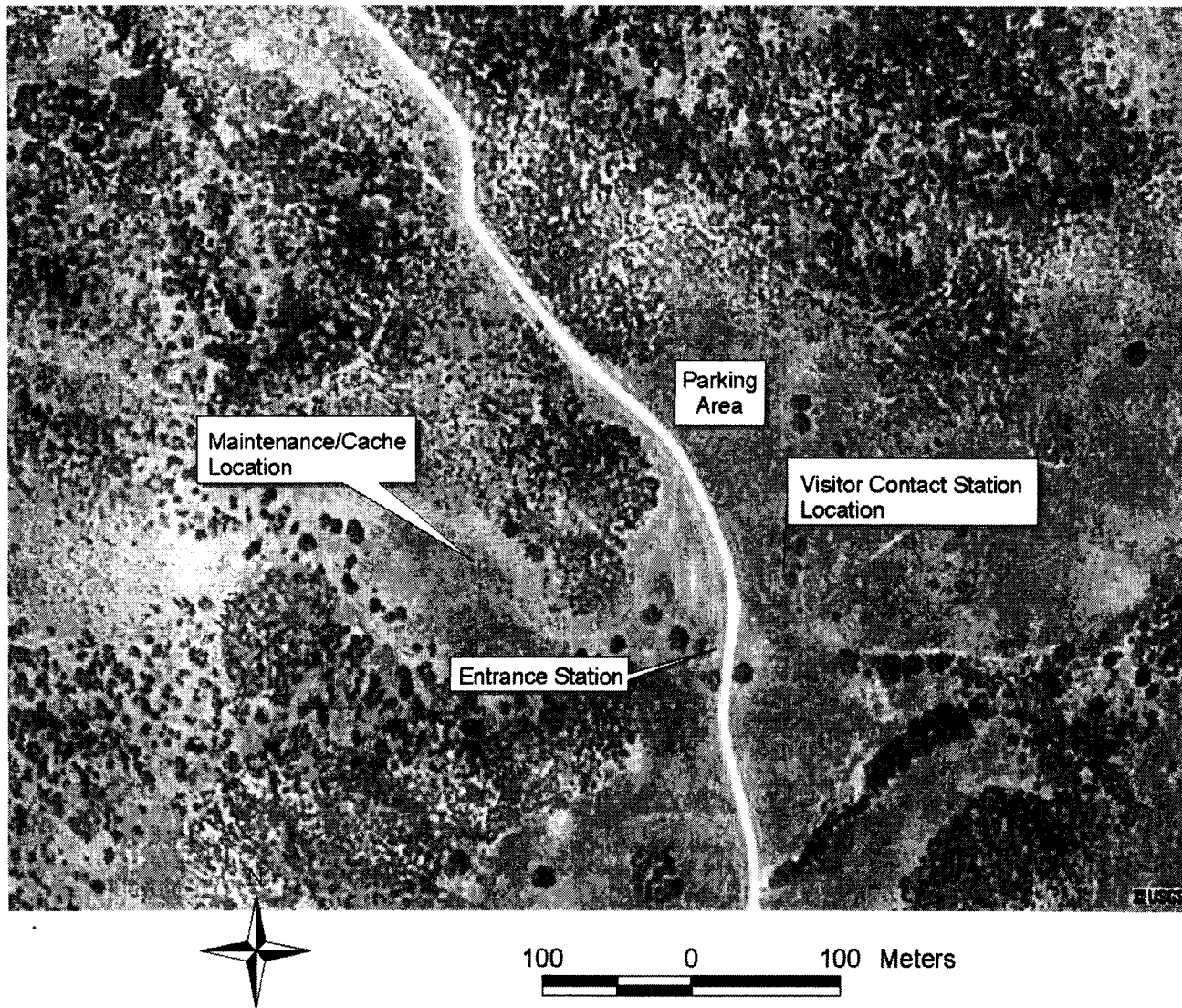


Figure 3. Proposed Site Plan

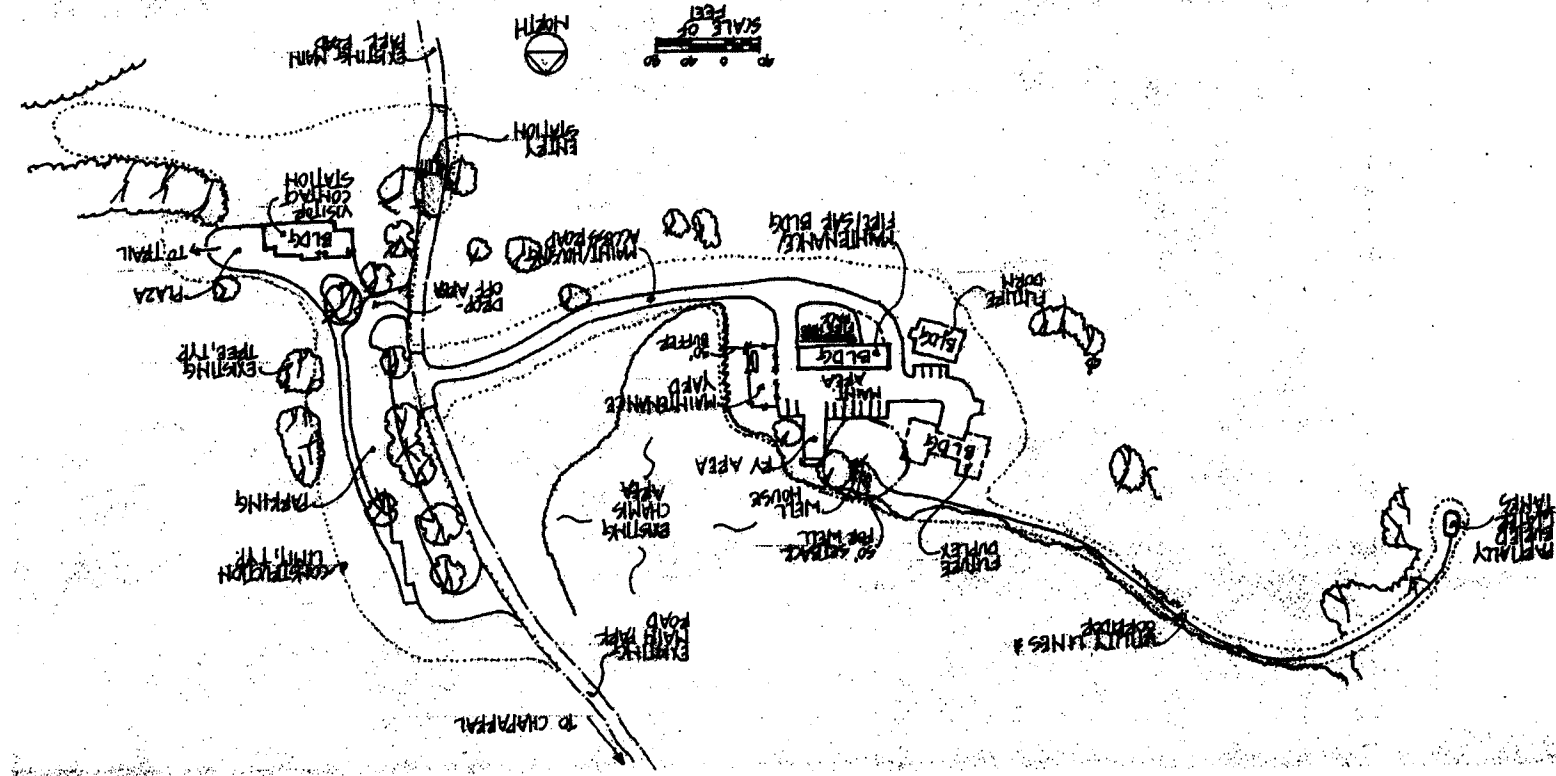




Figure 4. Chaparral Area

